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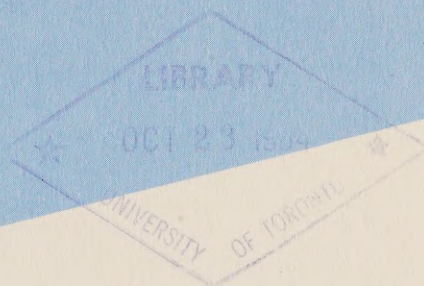


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6



DATA RECORD

SCOTIAN SHELF

HALIFAX SECTION

669 c

No. 6-10

1964 Data Record Series

1964 6-10

Canadian Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1964

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no. 6-10



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ROGER DUHAMEL, F. R. S. C.
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OTTAWA, 1964

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CANADIAN OCEANOGRAPHIC DATA CENTRE

615 Booth Street, Ottawa 4

Data Record

SCOTIAN SHELF

HALIFAX SECTION

(C.O.D.C. Reference: 01-63-001)

No. 6

1964 Data Record Series

Programmed by the Canadian Committee on Oceanography

NATURAL SCIENCES BRANCH

Geological Institute of Oceanography, Ottawa, K1A 0A2

FISHERIES RESEARCH BOARD OF CANADA
and
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

Scotian Shelf - Halifax Section

Ship: C.N.A.V. "Sackville"
Local cruise designation: S-68
Cruise period: January 15 - January 19, 1963
Observers: Mr. W.B. Baily
Mr. R.J. Lahey
Mr. M.E. Maclean
Mr. R. Reiniger
Mr. R.J. Fichaud

ATLANTIC OCEANOGRAPHIC GROUP
and
MARINE SCIENCES BRANCH

Bedford Institute of Oceanography, Dartmouth, N.S.

SECTION I

Description of data collection procedures

"SACKVILLE"



Fisheries Research Board



TRACK CHART

INTRODUCTION

The cruise had a dual purpose:

1. to monitor a line of oceanographic stations on the Scotian Shelf and Slope waters off Nova Scotia, and
2. to instruct personnel of the Halifax weather offices of the Royal Canadian Navy in oceanographic station procedures.

EXTRACT OF CRUISE LOG

Sailed from Halifax, N.S. on Jan. 15, 1963. The weather was relatively fair for the time of the year. Occupied nine oceanographic stations along the Halifax Section and its extension.

Arrived Halifax, N.S. on Jan. 19, 1963.

OBSERVATION PROCEDURES

Knudsen water bottles were used with Richter & Wiese and Yoshino protected thermometers to measure temperatures of samples at depth. The unprotected reversing thermometers (Yoshino type) were used from 200 metres down. All temperatures were read by two observers.

LABORATORY PROCEDURES

The salinity samples were processed on a National Institute of Oceanography salinity bridge. Temperatures, depths and meteorological data were corrected and checked.

BATHYTHERMOGRAPH DATA

A total of 136 bathythermographs were taken during the cruise. These were processed and are on file in the BT Data Centre at the Bedford Institute of Oceanography.

PERSONNEL

At Sea:

W.B. Bailey	Scientist-in-Charge	DM & TS
R.J. Lahey		AOG
M.E. Maclean		DM & TS
R. Reiniger		DM & TS

R.J. Fichaud
W. Ansley
H. Hyatt
D. Maclean

DOT
RCN
RCN
RCN

Data Analyses:

Compilation of Data:

J.R. Chevrier
T.A. Holler

Salinity determinations:

M.E. Maclean
M. Fillmore

BT Processing:

T.A. Grant
D.M. MacDonald

SECTION II

Description of the machine-generated data record

INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation cycle.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. If interpolations are carried out, additional derived quantities are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "estimate of precision" for each observed variable selected for interpolation at the standard oceanographic depth. The precision depends on the instrument or technique used to determine the variable.

A standard precision stated as a standard deviation (σ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" of section II of the data record.

The measurement error estimate of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "interpolation error estimate" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; first, to give an indication of the quality of interpolated data; second, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S, O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "measurement error estimate" comprises the "combined measurement and interpolation error estimate". It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

1 IDENT. CODE		2 LATITUDE (N = +)		3 LONGITUDE (W = +)		5 DATE		6 TIME		7 DEPTH		9 NO. DEPTHS OBS'D.		VESSEL																														
COUNTRY	INST.	DEG.	MIN.	DEG.	MIN.	YEAR	MONTH	DAY	HOURS G.M.T.	1 TO	TO BOTTOM	1	2	ENTERED BY	CHECKED BY																													
1	8																																											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	34 35																													
10	WATER	11	WAVES I	12	WAVES II	13	WIND	14	BAROMETER	15	AIR TEMP.	16	WET BULB	17	W.W. CODE	18	CLOUD	19	HOURS AFTER H.W.	20	UNASSIGNED	21	CRUISE REFERENCE NUMBER	22	CONSEC. NUMBER	23	CARD TYPE	24																
COLOUR	TRANS.	DW	DW	PW	HW	DW	PW	HW	DIR.	10	1	10	1	10	(SEPT. 62)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

6 TIME		7 DEPTH OF SAMPLE		8 TEMPERATURE		9 SALINITY		10 OXYGEN		13 PO ₄ - P		14 TOTAL - P		15 NO ₂ - N		16 NO ₃ - N		17 SiO ₂ - Si		18 P.H.	
HOURS G.M.T.	1	1	10	e	e	d/g	e	e	e	1	10	1	10	1	10	1	10	1	10	1	10
1																					
2																					
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25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
80																					

OBSERVED CARD

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

- σ_i = Standard deviation of the combined error estimates at standard oceanographic depth,
 ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $1/3 (V_{i_1} - V_{i_2})$
 γ = Interpolation polynomial coefficient.
 Z_j = Observed depth.
 Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma_i}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma_i}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(10) DEPTH	(15) WAVES 1	(20) AIR T	(25) VIS
(2) CONS. NO	(7) MONTH	(11) MXSAMPD	(16) WAVES 2	(21) WET B	(26) STN
(3) LAT	(8) DAY	(12) NO. DPTH	(17) WND-DIR	(22) WW-CODE	
(4) LON	(9) HR	(13) W-COLOR	(18) WND-FCE	(23) CLD-TPE	
(5) MARSD SQ		(14) W-TRNSP	(19) BARO	(24) CLD-AMT	(27) HW

(1) CRUISE REFER-
ENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the C.R.N. was a number designated by C.O.D.C.

(2) CONSECUTIVE
NUMBER:

Indicates the chronological order in which the stations were occupied.

(3) LATITUDE:

Indicate the position of the platform at the time of observation

(4) LONGITUDE:

(5) MARSDEN SQUARE: Designates the geographic area code (see Marsden square chart) in which the observation is located.

(6) YEAR:

(7) MONTH:

(8) DAY:

(9) HOUR:

The time (Greenwich Mean Time) at which the Master-card data were recorded.

It is reported to tenths of hours (Table 1).

If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

(10) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section II. Charted depths are denoted by the sounding value, preceded by the letter "C".

(11) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.

- (12) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch cards).
- (13) WATER COLOUR: A code based on the percentage of yellow (see table 2 and NOTE under FIELD "14" below).
- (14) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section II of the data record will state which method was used.
- (15) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (16) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant other-than wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (17) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing. Wind direction 990 means:—wind variable or direction unknown.
- (18) WIND FORCE
(WND-FCE): Beaufort Notation (See Table 6).
- WIND SPEED
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section II.
- (19) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section II of the data record will state the type of instrument used.
- (20) AIR TEMPERATURE: In degrees Celsius.
- (21) WET BULB: In degrees Celsius.
- (22) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (23) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (24) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (25) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (26) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (27) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO_4	(9) -P-	(10) NO_2	(11) NO_3	(12) SiO_3
					(13) pH.

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the moment the oceanographic bottle reversed.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01°C . Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of this section. An alphabetical character following the Temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 \text{ C1}\%$, reported in:
 a. 1/100 parts per 1000, or
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3)

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

(8) PO ₄	Phosphate – Phosphorus reported to hundredths of microgram-atoms per litre.
(9) -P-	Total Phosphorus reported to hundredths of microgram-atoms per litre.
(10) NO ₂	Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included –
(11) NO ₃	Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
(12) SiO ₃	Silicate-Silicon reported in whole microgram-atoms per litre.
(13) pH	The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value smaller the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY: **A.** The reported salinity values are observed to three decimal places.
 (i) the interpolation error estimate is less than twice the standard deviation of measurement
 –the interpolated value is reported to three decimal places (e.g., 30.139).
 (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 –the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23C).
B. The reported salinity values are observed to two decimal places and followed by the measurement error estimate.
 –the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND
VELOCITY: Computed from temperature and salinity values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^p \delta dp$$

ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2,345 dyn. metres).

(8) POTENTIAL
ENERGY
ANOMALY:

The Potential energy anomaly χ as defined by:

$$\chi = 1/g \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$

χ is expressed in units of 10^8 ergs/cm² and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC
VOLUME
ANOMALY:

The specific volume anomaly as defined by:

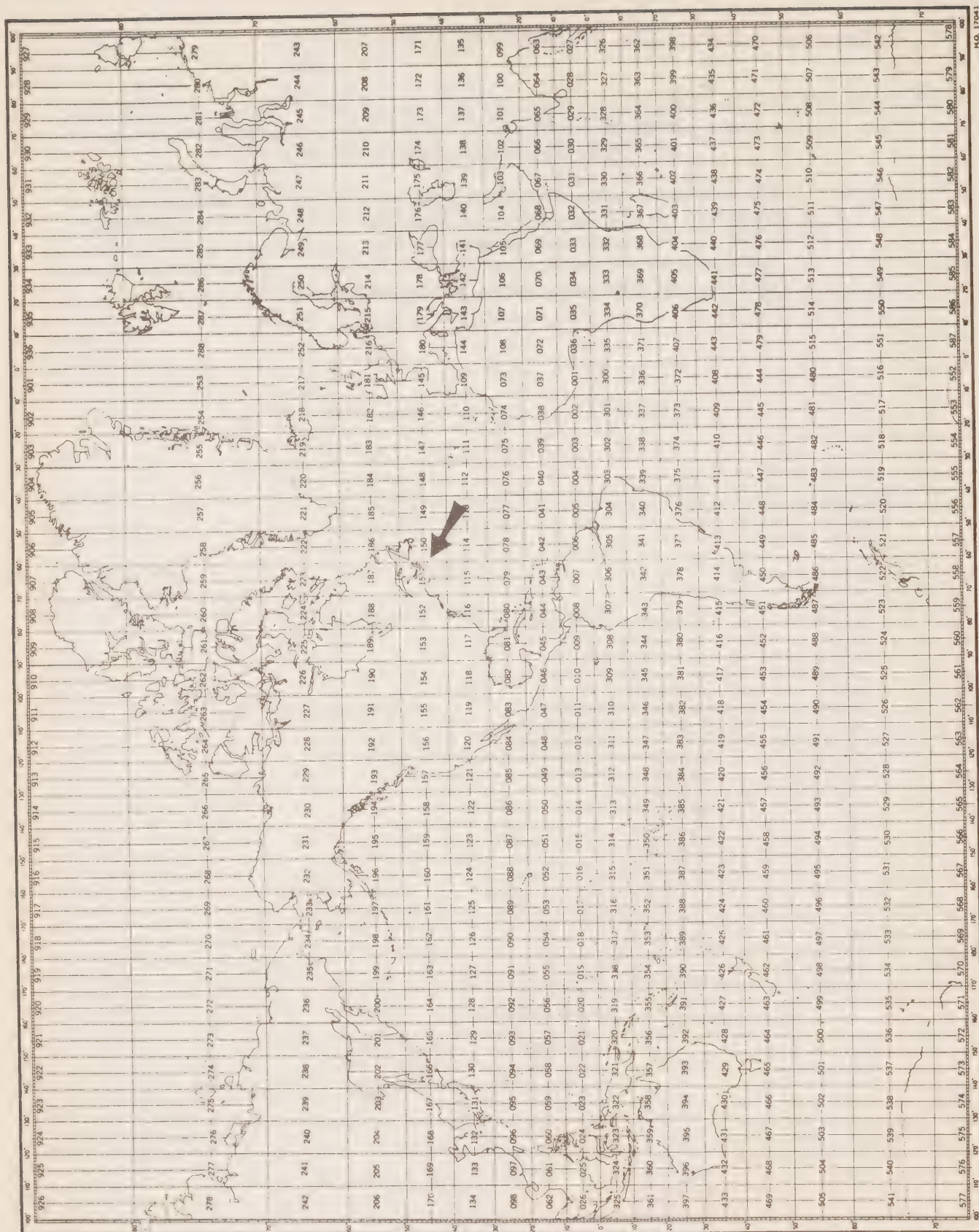
$$\delta = \alpha - \alpha_{35.0.P}$$

δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

SPECIAL CHARACTERS

‡ (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

* (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels within that interval are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas.



MARSDEN SQUARE CHART

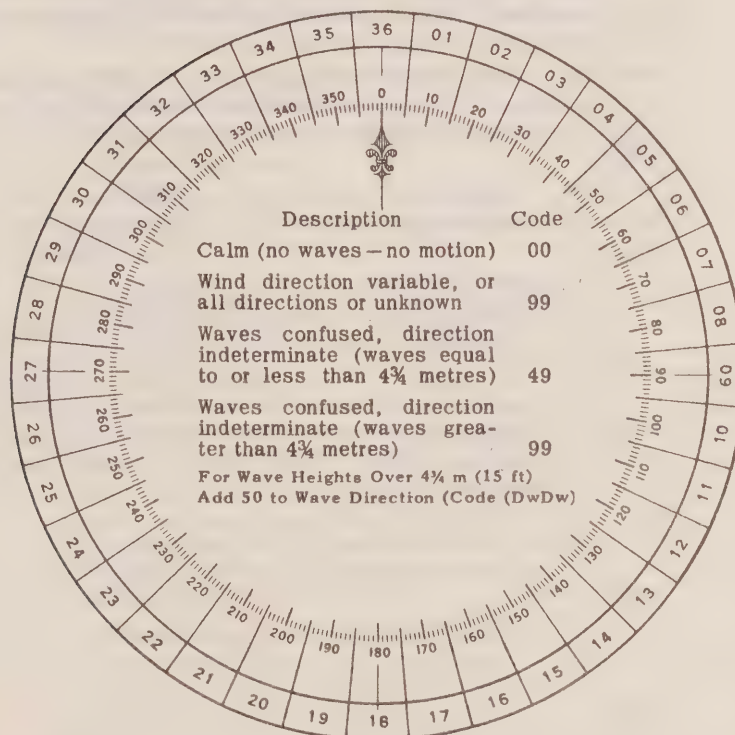
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (P_w)
(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (H_w)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m (2½ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m (13½ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code		Code
0	Less than $\frac{1}{4}$ m (1 ft)	0 5 m (16 ft)
1	$\frac{1}{2}$ m (1½ ft)	1 5½ m (17½ ft)
2	1 m (3 ft)	2 6 m (19 ft)
3	1½ m (5 ft)	3 6½ m (21 ft)
4	2 m (6½ ft)	4 7 m (22½ ft)
5	2½ m (8 ft)	5 7½ m (24 ft)
6	3 m (9½ ft)	6 8 m (25½ ft)
7	3½ m (11 ft)	7 8½ m (27 ft)
8	4 m (13 ft)	8 9 m (29 ft)
9	4½ m (14 ft)	9 9½ m (30½ ft) or more
x	Height not determined	

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure ww	
No meteors except photometeors	00 Cloud development not observed or not observable
	01 Clouds generally dissolving or becoming less developed
	02 State of sky on the whole unchanged
	03 Clouds generally forming or developing
Haze, dust, sand or smoke	04 Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes
	05 Haze
	06 Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation
	07 Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen
	08 Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no duststorm or sandstorm
	09 Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour
	10 Mist
	11 Patches of shallow fog or ice fog at the station, whether on land or sea, not
	12 More of less deeper than about 2 metres on continuous land or 10 metres at sea
	13 Lightning visible, no thunder heard
	14 Precipitation within sight, not reaching the ground or the surface of the sea
	15 Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station
	16 Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station
	17 Thunderstorm, but no precipitation at the time of observation
	18 Squalls at or within sight of the station during the preceding hour
	19 Funnel clouds or at the time of observation

characteristic
change of the
state of sky
during the
past hour

ww = 20 - 29		Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation
20	Drizzle (not freezing) or snow grains	} not falling as shower(s)
21	Rain (not freezing)	
22	Snow	
23	Rain and snow or ice pellets, type (a)	
24	Freezing drizzle or freezing rain	
25	Shower(s) of rain	
26	Shower(s) of snow, or of rain and snow	
27	Shower(s) of hail, or of rain and hail	
28	Fog or ice fog	
29	Thunderstorm (with or without precipitation)	
ww = 30 - 39		Duststorm, sandstorm, drifting or blowing snow
30	} Slight or moderate duststorm or sandstorm	-has decreased during the preceding hour
31		-no appreciable change during the preceding hour
32		-has begun or has increased during the preceding hour
33	} Severe duststorm or sandstorm	-has decreased during the preceding hour
34		-no appreciable change during the preceding hour
35		-has begun or has increased during the preceding hour
36	Slight or moderate blowing snow	} generally low (below eye level)
37	Heavy drifting snow	
38	Slight or moderate blowing snow	} generally high (above eye level)
39	Heavy blowing snow	
ww = 40 - 49		Fog or ice fog at the time of observation
40	Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
41	Fog or ice fog in patches	
42	Fog or ice fog, sky visible	} has become thinner during the preceding hour
43	Fog or ice fog, sky invisible	
44	Fog or ice fog, sky visible	} no appreciable change during the preceding hour
45	Fog or ice fog, sky invisible	
46	Fog or ice fog, sky visible	} has begun or has become thicker during the preceding hour
47	Fog or ice fog, sky invisible	
48	Fog, depositing rime, sky visible	
49	Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle

- | | | | |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent | { | slight at time of observation |
| 51 | Drizzle, not freezing, continuous | | |
| 52 | Drizzle, not freezing, intermittent | { | moderate at time of observation |
| 53 | Drizzle, not freezing, continuous | | |
| 54 | Drizzle, not freezing, intermittent | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous | | |
| 56 | Drizzle, freezing, slight | | |
| 57 | Drizzle, freezing, moderate or heavy (dense) | | |
| 58 | Drizzle and rain, slight | | |
| 59 | Drizzle and rain, moderate or heavy | | |

ww = 60 - 69 Rain

- | | | | |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent | { | slight at time of observation |
| 61 | Rain, not freezing, continuous | | |
| 62 | Rain, not freezing, intermittent | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous | | |
| 64 | Rain, not freezing, intermittent | { | heavy at time of observation |
| 65 | Rain, not freezing, continuous | | |
| 66 | Rain, freezing, slight | | |
| 67 | Rain, freezing, moderate or heavy | | |
| 68 | Rain or drizzle and snow, slight | | |
| 69 | Rain or drizzle and snow, moderate or heavy | | |

70 - 79 Solid precipitation not in showers

- | | | | |
|----|---|---|---------------------------------|
| ww | | | |
| 70 | Intermittent fall of snow flakes | { | slight at time of observation |
| 71 | Continuous fall of snow flakes | | |
| 72 | Intermittent fall of snow flakes | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes | | |
| 74 | Intermittent fall of snow flakes | { | heavy at time of observation |
| 75 | Continuous fall of snow flakes | | |
| 76 | Ice prisms (with or without fog) | | |
| 77 | Snow grains (with or without fog) | | |
| 78 | Isolated starlike snow crystals (with or without fog) | | |
| 79 | Ice pellets, type (a) | | |

ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- | | | | |
|----|--|---|---|
| 80 | Rain shower(s), slight | | |
| 81 | Rain shower(s), moderate or heavy | | |
| 82 | Rain shower(s), violent | | |
| 83 | Shower(s) of rain and snow mixed, slight | | |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy | | |
| 85 | Snow shower(s), slight | | |
| 86 | Snow shower(s), moderate or heavy | | |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain | { | - slight |
| 88 | or rain and snow mixed | | |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder | { | - moderate or heavy |
| 90 | | | |
| 91 | Slight rain at time of observation | { | thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy rain at time of observation | | |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation | { | - slight |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation | | |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | - moderate or heavy |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation | | |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation | { | thunderstorm at time of observation |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation | | |
| 99 | Thunderstorm, heavy, with hail at time of observation | | |

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Ci	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
x	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
90	Less than 50 metres (less than 55 yards)
91	50-200 metres (approx. 55-220 yards)
92	200-500 metres (approx. 220-550 yards)
93	500-1,000 metres (approx. 550 yards- $\frac{1}{2}$ n.m.)
94	1-2 km (approx. $\frac{3}{4}$ -1 n.m.)
95	2-4 km (approx. 1-2 n.m.)
96	4-10 km (approx. 2-6 n.m.)
97	10-20 km (approx. 6-12 n.m.)
98	20-50 km (approx. 12-30 n.m.)
99	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

GENERAL INFORMATION

<u>Institute:</u>	Atlantic Oceanographic Group
<u>Observation platform:</u>	C.N.A.V. "Sackville"
<u>Vessel's cruising speed :</u>	12 knots
<u>Total number of stations occupied:</u>	9
<u>Anemometer height above sea level:</u>	11 metres
<u>Barometer readings</u>	were obtained using an Aneroid Barometer and were corrected prior to recording
<u>Air temperature</u>	was observed from a Sling Psychrometer
<u>Wet bulb temperature</u>	was observed from a Sling Psychrometer
<u>Surface Sea water temperature</u>	was obtained from a bucket sample using a deck thermometer

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature	0.02
Salinity	0.003

SECTION III

Serial oceanographic data

C-REF-NO 001	YR 1963	DEPTH 82	WAVES 1 13X2	AIR T 04.4	VIS
CONS. NO 001	MONTH 1	MXSAMPD 01	WAVES 2 00X0	WET B 02.2	STN
LAT 44-240N	DAY 15	NO.DPTH 6	WND-DIR 130	WW-CODE 02	
LON 63-280W	HR 23.4	W-COLOR	WND-SPD 03	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1027.0	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
234	0000	028 B	30841		2461	14561
234	0010	0288	30828		2459	14566
234	0020	0296	30920		2466	14572
234	0030	0301	30940		2467	14576
234	0050	0299	31017		2474	14580
234	0075	0334	31455		2505	14605

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0280 B	30841		2461	14561	0000	00000	3337
0010	0288	30828		2459	14566	0034	00002	3353
0020	0296	30920		2466	14572	0067	00007	3290
0030	0301	30940		2467	14576	0100	00015	3279
0050	0299	31017		2474	14580	0165	00042	3219
0075	0334	31455		2505	14605	0243	00091	2917

C-REF-NO 001	YR 1963	DEPTH 146	WAVES 1 28X0	AIR T -00.5	VIS
CONS. NO 002	MONTH 1	MXSAMPD 01	WAVES 2 00X0	WET B -02.8	STN
LAT 44-160N	DAY 16	NO.DPTH 8	WND-DIR 280	WW-CODE 02	
LON 63-188W	HR 00.9	W-COLOR	WND-SPD 01	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1027.0	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
009	0000	028 B	30844		2461	14561
009	0010	0282	30846		2461	14564
009	0020	0285	30851		2461	14567
009	0030	0296	30934		2467	14574
009	0050	0304	31033		2474	14582
009	0074	0331	31738		2528	14607
009	0099	0294	32579		2598	14607
009	0134	0454	33454		2652	14692

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0280 B	30844		2461	14561	0000	00000	3335
0010	0282	30846		2461	14564	0034	00002	3335
0020	0285	30851		2461	14567	0067	00007	3334
0030	0296	30934		2467	14574	0100	00015	3279
0050	0304	31033		2474	14582	0166	00042	3211
0075	0329	31772		2531	14607	0240	00089	2673
0100	0336 I	3255 I		2592	14625	0300	00141	2095
0125	0415 E	3322 E		2638	14671	0347	00195	1663

C-REF-NO 001	YR 1963	DEPTH 250	WAVES 1 18X2	AIR T 00.3	VIS 97
CONS. NO 003	MONTH 1	MXSAMPD 02	WAVES 2 18X2	WET B -02.1	STN
LAT 43-550N	DAY 16	NO.DPTH 10	WND-DIR 990	WW-CODE 02	
LON 62-560W	HR 06.0	W-COLOR	WND-SPD	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1025.0	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
060	0000	041 B	31860		2531	14631
060	0010	0418	31868		2530	14636
060	0020	0420	31874		2531	14638
060	0030	0462	31992		2536	14659
060	0050	0480	32374		2564	14675
060	0075	0562	33582		2650	14729
060	0100	0705	34127		2675	14797
060	0150		34540			
060	0200	0824	34667		2700	14867
060	0235	0823	34682		2701	14872

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0410 B	31860		2531	14631	0000	00000	2676
0010	0418	31868		2530	14636	0027	00001	2678
0020	0420	31874		2531	14638	0054	00006	2676
0030	0462	31992		2536	14659	0081	00012	2629
0050	0480	32374		2564	14675	0131	00033	2361
0075	0562	33582		2650	14729	0180	00063	1548
0100	0705	34127		2675	14797	0216	00095	1323
0125	0777 I	3441 I		2686	14833	0248	00132	1218
0150	0821 I	34540		2690	14856	0278	00175	1188
0175	0837 I	3463 B		2695	14867	0308	00224	1149
0200	0824	34667		2700	14867	0336	00278	1107
0225	0839 D	3469 B		2699	14877	0364	00339	1114

C-REF-NO 001	YR 1963	DEPTH 77	WAVES 1 49X3	AIR T 01.9	VIS 98
CONS. NO 004	MONTH 1	MXSAMPD 01	WAVES 2 49XX	WET B 00.0	STN
LAT 43-290N	DAY 16	NO.DPTH 6	WND-DIR 250	WW-CODE 03	
LON 62-270W	HR 12.4	W-COLOR	WND-SPD 05	CLD-TPE 5	
MARSD SQ 151		W-TRNSP	BARO 1027.0	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
124	0000	044 B	32238		2558	14648
124	0010	0442	32221		2556	14651
124	0020	0435 C	32228		2557	14649
124	0030	0456	32288		2560	14661
124	0049	0439	32348		2566	14657
124	0069	0551	33346		2633	14720

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0440 B	32238		2558	14648	0000	00000	2420
0010	0442	32221		2556	14651	0024	00001	2435
0020	0435 C	32228		2557	14649	0049	00005	2424
0030	0456	32288		2560	14661	0073	00011	2400
0050	0472 I	3252 I		2577	14674	0120	00030	2241

C-REF-NO 001	YR 1963	DEPTH 93	WAVES 1 27X6	AIR T 02.2	VIS
CONS. NO 005	MONTH 1	MXSAMPD 01	WAVES 2 18X2	WET B 01.0	STN
LAT 43-110N	DAY 16	NO.DPTH 6	WND-DIR 270	WW-CODE 03	
LON 62-055W	HR 17.1	W-COLOR	WND-SPD 05	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1027.0	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
171	0000	038 B	32186		2559	14622
171	0010	0384	32160		2557	14625
171	0020	0382	32151		2556	14626
171	0029	0387	32180		2558	14630
171	0049	0397	32275		2565	14639
171	0074	0290	32881		2623	14605

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0380 B	32186		2559	14622	0000	00000	2402
0010	0384	32160		2557	14625	0024	00001	2426
0020	0382	32151		2556	14626	0049	00005	2432
0030	0389	32180		2558	14631	0073	00011	2416
0050	0381 E	3234 I		2572	14633	0120	00031	2289
0075	0284	32911		2626	14603	0172	00063	1776

C-REF-NO 001	YR 1963	DEPTH 1006	WAVES 1 28XX	AIR T 01.9	VIS 98
CONS. NO 006	MONTH 1	MXSAMPD 09	WAVES 2 28XX	WET B 00.0	STN
LAT 42-510N	DAY 16	NO.DPTH 16	WND-DIR 280	WW-CODE 02	
LON 61-450W	HR 22.9	W-COLOR	WND-SPD 07	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1028.0	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
229	0000	038 B	32101		2553	14621
229	0010	0375	32093		2552	14620
229	0020	0374	32093		2552	14622
229	0029	0375	32087		2552	14624
229	0049	0414	32289		2564	14646
229	0073	0421	32727		2598	14659
229	0098	0422	33349		2647	14672
229	0147	0370	33805		2689	14664
229	0195	0562	34511		2724	14761
229	0295	0544	34749		2745	14773
222	0375	0498	34848		2758	14769
222	0468	0454	34883		2766	14767
222	0572	0434	34896		2769	14776
222	0666	0420	34914		2772	14786
222	0762	0405 B	34918		2774	14795
222	0857	0401	34921		2774	14810

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0380 B	32101		2553	14621	0000	00000	2467
0010	0375	32093		2552	14620	0025	00001	2469
0020	0374	32093		2552	14622	0050	00005	2468
0030	0377	32092		2552	14624	0075	00011	2472
0050	0415	32304		2565	14647	0123	00031	2349
0075	0422	3278 B		2602	14660	0178	00066	2000
0100	0418	3338 C		2650	14671	0222	00105	1550
0125	0382 G	3365 I		2675	14663	0259	00146	1313
0150	0380 B	3385 B		2691	14669	0290	00190	1159
0175	0475 H	3423 I		2711	14718	0317	00235	0980
0200	0568 B	3454 D		2725	14765	0340	00279	0853
0225	0589 I	3468 I		2733	14779	0360	00324	0782
0250	0590 I	3475 I		2739	14784	0379	00370	0730
0300	0541	34757		2746	14773	0415	00470	0674
0400	0484	34863		2761	14768	0476	00687	0539
0500	0446	34888		2767	14769	0528	00925	0487
0600	0430	34902		2770	14779	0576	01198	0468
0700	0414	34916		2773	14789	0623	01508	0449
0800	0404	34921		2774	14801	0668	01856	0443

C-REF-NO 001	YR 1963	DEPTH 1829	WAVES 1 27X2	AIR T 02.1	VIS 98
CONS. NO 007	MONTH 1	MXSAMPD 10	WAVES 2 27X1	WET B 00.4	STN
LAT 42-430N	DAY 17	NO.DPTH 16	WND-DIR 270	WW-CODE	
LON 61-350W	HR 01.6	W-COLOR	WND-SPD 05	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1030.0	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
016	0000	040 B	32306		2567	14632
016	0009	0418	32279		2563	14641
016	0018	0427	32312		2565	14647
016	0028	0509 D	32536		2574	14686
016	0046	0576	33243		2622	14725
016	0069	0466	33650		2667	14689
016	0092	0421	33788		2682	14676
016	0138		34859			
016	0184	0562 B	35024		2764	14766
010	0346	0519	34819		2753	14772
010	0437	0482	34895		2763	14773
010	0526	0454	34896		2767	14776
010	0625	0421	34887		2770	14779
010	0712	0416	34913		2772	14792
010	0807	0405	34920		2774	14803
010	1000	0389	34915		2775	14828

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0400 B	32306		2567	14632	0000	00000	2330
0010	0418	32277		2563	14641	0024	00001	2369
0020	0442 B	32344		2566	14654	0047	00005	2343
0030	0522 D	3261 D		2578	14692	0070	00011	2225
0050	0562 D	3334 B		2631	14722	0110	00027	1724
0075	0450	3369 F		2671	14684	0149	00051	1346
0100	0425 D	3397 I		2696	14682	0180	00078	1112
0125	0449 I	3455 I		2740	14704	0203	00104	0704
0150	0487 I	3495 I		2767	14729	0217	00124	0448
0175	0540 E	3503 G		2767	14756	0228	00143	0451
0200	0567 C	3502 H		2763	14771	0240	00166	0495
0225	0570 F	3501 I		2762	14776	0253	00194	0511
0250	0569 G	3499 I		2760	14779	0266	00226	0529
0300	0552 F	3492 I		2757	14780	0294	00304	0567
0400	0497	3486 C		2759	14773	0351	00508	0556
0500	0462	34900		2766	14775	0404	00752	0497
0600	0428	34888		2769	14778	0453	01030	0477
0700	0416	34909		2772	14790	0500	01345	0457
0800	0406	34920		2774	14802	0546	01698	0447
1000	0389	34915		2775	14828	0637	02539	0449

C-REF-NO 001	YR 1963	DEPTH 4206	WAVES 1 28XX	AIR T 05.0	VIS 98
CONS. NO 008	MONTH 1	MXSAMPD 08	WAVES 2 27XX	WET B 02.2	STN
LAT 41-545N	DAY 17	NO.DPTH 16	WND-DIR 280	WW-CODE 02	
LON 60-400W	HR 14.0	W-COLOR	WND-SPD 07	CLD-TPE X	
MARSD SQ 151		W-TRNSP	BARO 1034.0	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
140	0000	156 B	35999		2662	15105
140	0010	1618	35975		2647	15124
140	0019	1618	35959		2646	15125
140	0028	1618	35967		2647	15127
140	0047	1619	35971		2647	15131
140	0071	1619	35972		2647	15134
140	0095	1618	35964		2646	15138
140	0142	1472	35663		2656	15096
140	0189	1490 B	35671		2653	15110
133	0278	1157	35409		2701	15011
133	0343	0987	35231		2717	14958
133	0397	0862 B	35118		2729	14920
133	0466	0686	34967		2743	14861
133	0535	0628	35012		2755	14850
133	0600		35538			
133	0780	0620 B	35034		2757	14888

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1560 B	35999		2662	15105	0000	00000	1423
0010	1618	35975		2647	15124	0015	00001	1570
0020	1618	35959		2646	15126	0031	00003	1585
0030	1618	35968		2647	15127	0047	00007	1582
0050	1619	35971		2647	15131	0079	00020	1588
0075	1621	35974		2647	15136	0119	00046	1597
0100	1603 C	3593 D		2648	15134	0159	00082	1596
0125	1526 G	3578 I		2653	15112	0199	00128	1553
0150	1474 D	3566 C		2655	15098	0238	00183	1536
0175	1483 E	3566 E		2653	15105	0277	00248	1562
0200	1459 F	3565 C		2658	15102	0316	00323	1526
0225	1377 I	3559 E		2670	15078	0353	00404	1411
0250	1281 I	3551 E		2684	15050	0387	00486	1284
0300	1095	35346		2707	14992	0446	00653	1070
0400	0853 B	35109		2730	14917	0544	00998	0862
0500	0649 B	3494 E		2747	14852	0622	01359	0702
0600	0543 I	35538		2807	14834	0665	01583	0135
0700	0544 G	3524 I		2784	14847	0690	01760	0367
0800	0649 C							

C-REF-NO 001	YR 1963	DEPTH 4023	WAVES 1 26X2	AIR T 11.7	VIS 98
CONS. NO 009	MONTH 1	MXSAMPD 10	WAVES 2 27X2	WET B 07.2	STN
LAT 40-00ON	DAY 18	NO.DPTH 16	WND-DIR 160	WW-CODE 01	
LON 58-390W	HR 09.1	W-COLOR	WND-SPD 05	CLD-TPE X	
MARSD SQ 150		W-TRNSP	BARO 1037.0	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
091	0000	159 B	35774		2638	15112
091	0010	1577	35748		2639	15109
091	0020	1578	35751		2639	15111
091	0030	1578	35753		2639	15112
091	0050	1580	35744		2638	15116
091	0075	1586 B	35767		2639	15122
091	0100	1579	35744		2639	15124
091	0150	1462	35543		2649	15093
091	0200	1371	35704		2681	15074
086	0300	1036	35302		2714	14970
086	0400	0793	35086		2737	14893
086	0500	0613	35013		2757	14838
086	0600	0539	35005		2765	14825
086	0695	0488	34984		2770	14820
086	0797	0463	34955		2770	14826
086	0993	0428	34972		2776	14844

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1590 B	35774		2638	15112	0000	00000	1652
0010	1577	35748		2639	15109	0017	00001	1646
0020	1578	35751		2639	15111	0033	00003	1649
0030	1578	35753		2639	15112	0050	00008	1651
0050	1580	35744		2638	15116	0083	00021	1668
0075	1586 B	35767		2639	15122	0125	00048	1672
0100	1579	35744		2639	15124	0168	00086	1682
0125	1527 D	3563 H		2642	15111	0210	00135	1659
0150	1462	35543		2649	15093	0251	00193	1594
0175	1418 B	3562 H		2664	15084	0289	00257	1458
0200	1371	35704		2681	15074	0324	00323	1305
0225	1293 E	3564 I		2692	15051	0355	00392	1203
0250	1211 F	3555 I		2702	15026	0385	00463	1118
0300	1036	35302		2714	14970	0438	00613	0999
0400	0793	35086		2737	14893	0528	00932	0788
0500	0613	35013		2757	14838	0598	01252	0602
0600	0539	35005		2765	14825	0655	01572	0525
0700	0486	34982		2770	14820	0707	01914	0488
0800	0456 B	3496 B		2772	14824	0755	02289	0475
1000	0428	34973		2776	14845	0849	03159	0454

REFERENCES

- Knudsen, K. , 1901 Hydrographischen Tabellen. Copenhagen, 63 pp.
- Ekman, V.W. , 1908 Die Zusammendrückbarkeit des Meerwassers nebst
einigen Werten für Wasser und Quecksilber.
Publ. Circ. Cons. Explor. Mer. , No. 43, 47 pp.
- Strickland, J.D.H. MS, 1958. Standard methods of seawater analyses.
Volume II. Fish. Res. Bd. Canada, MS Rept. Oceanogr.
and Limnol. , No. 19, 78 pp.
- Strickland, J.D.H. and Parsons, T.R. , 1960. A manual of seawater analysis.
Bull. Fish. Res. Bd. Canada, No. 125, 185 pp.
- Wilson, W.D. , 1960 Equation for the speed of sound in seawater. Journ.
Acoust. Soc. , America 32 (10); p. 1357.
- Rattray, M. Jr. , 1962 Interpolation errors and oceanographic sampling.
Deep Sea Research. vol. 9, pp 25 to 37.
- Sauer, C.D. , and Fofonoff, N.P. Oceans II, a computer program
for processing oceanographic data (Publication pending).



CANADA

DATA RECORD
**HALIFAX APPROACHES
AND CABOT STRAIT**

No. 7
1964 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1964

ROGER DUHAMEL, F. R. S. C.
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CANADIAN OCEANOGRAPHIC DATA CENTRE

615 Booth Street, Ottawa 4

Data Record

HALIFAX APPROACHES AND CABOT STRAIT

(C.O.D.C. Reference: C.R.N. 352)

No. 7

1964 Data Record Series

Programmed by the Canadian Committee on Oceanography

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

Halifax Approaches and Cabot Strait

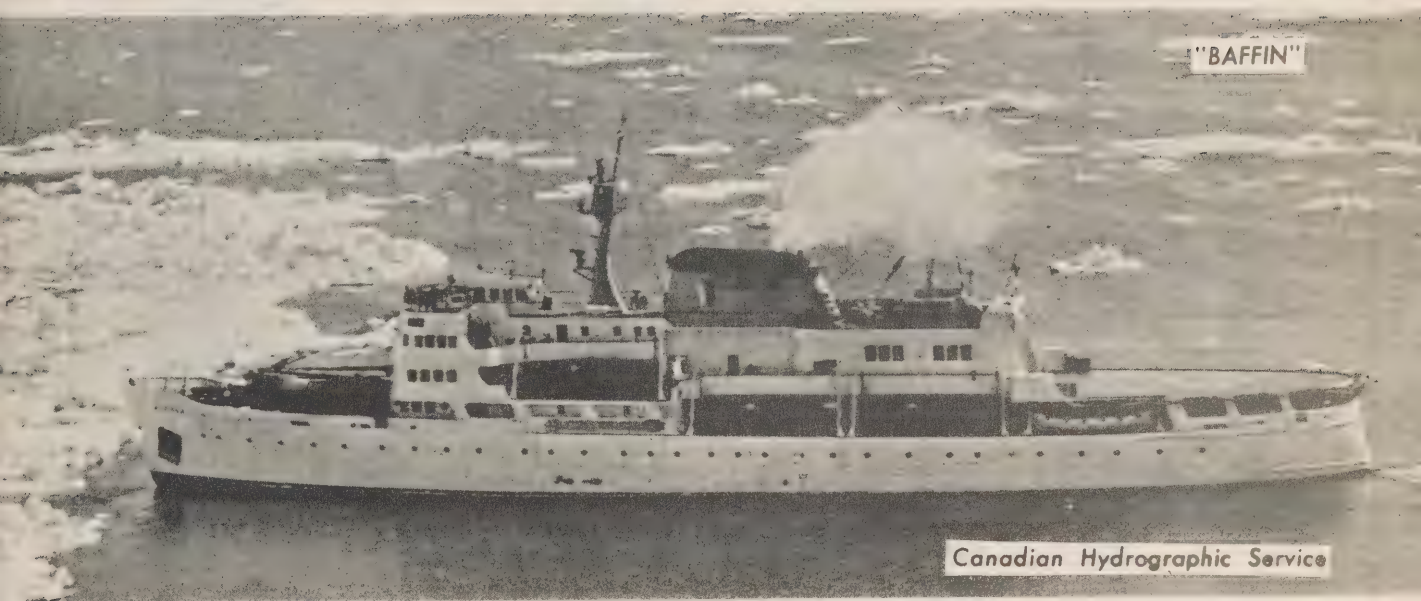
Ship	C.S.S. "Baffin"
Local cruise designation	Baffin - 1
Cruise period	October 30 - November 10, 1961
Observers	See Section I, p. 15

SECTION I

Description of data collection procedures

"BAFFIN"

Canadian Hydrographic Service



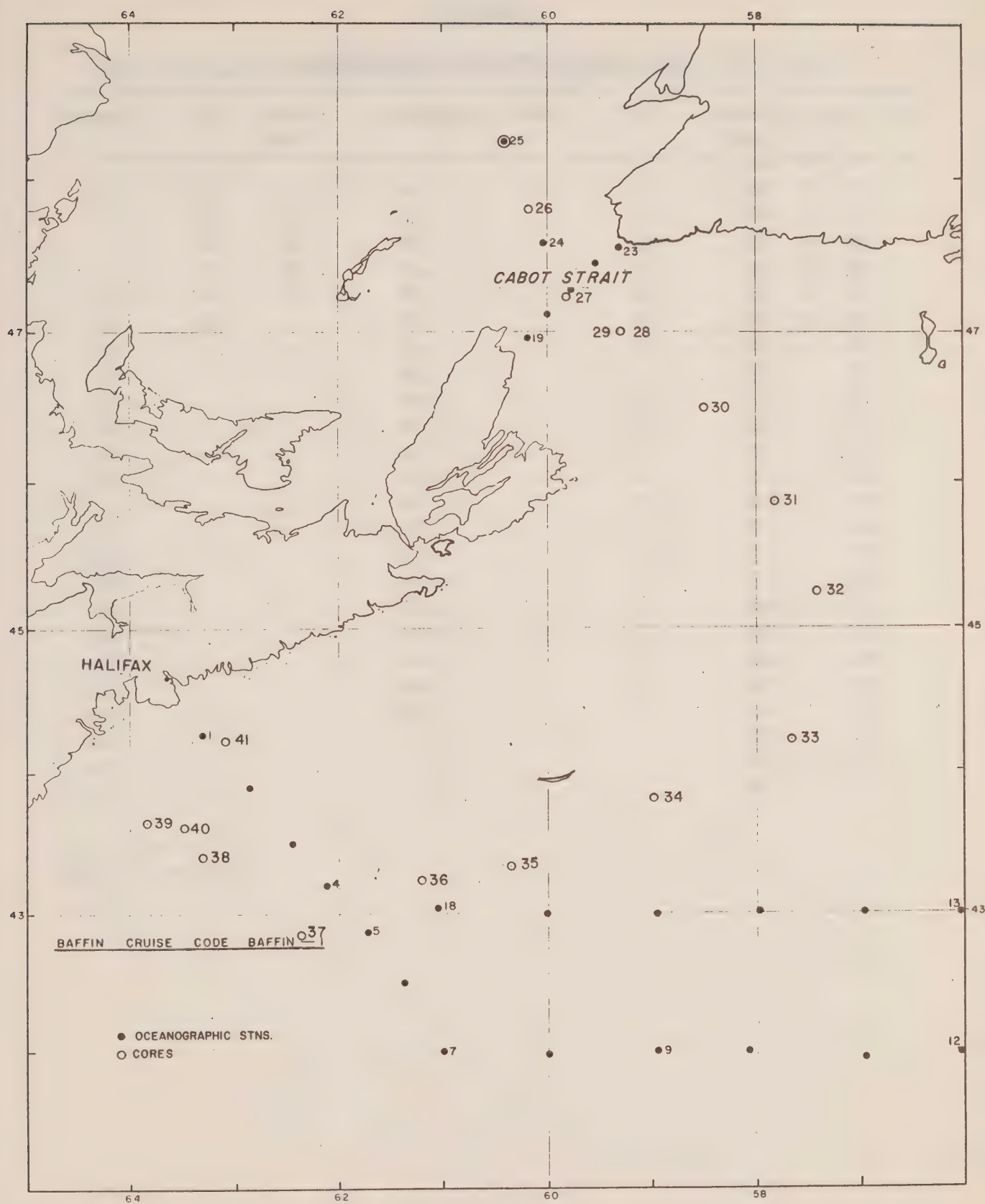


Figure 1.

Table 1Observation attempted at each station

Stn. No.	Bottle Cast	BT	Core	Stn. No.	Bottle Cast	BT	Core
1	X	X		21	X	X	
2	X	X		22	X	X	
3	X	X		23	X	X	
4	X	X		24	X	X	
5	X	X		25	X	X	X
6	X	X		26		X	X
7	X	X		27			X
8	X			28			X
9	X	X		29			X
10	X	X		30			X
11	X	X		31			X
12	X	X		32			X
13	X	X		33			X
14	X	X		34			X
15	X	X		35			X
16	X	X		36			X
17	X	X		37			X
18	X	X		38			X
19	X	X		39			X
20	X	X		40			X
				41			X

Table IISlide number, station number and G.M.T. date group (hour, day, month)

<u>Slide No.</u>	<u>Station No.</u>	<u>G.M.T.</u>
1	1	2250 30 - X
2	2	0235 31 - X
3	3	0750 31 - X
4	4	1030 31 - X
5	5	1420 31 - X
6	6	1805 31 - X
7	7	2105 31 - X
8	9	0800 1 - XI
9	10	1120 1 - XI
10	11	1655 1 - XI
11	12	2145 1 - XI
12	13	0330 2 - XI
13	14	0715 2 - XI
14	15	1500 2 - XI
15	16	2015 2 - XI
16	17	0115 3 - XI
17	18	0545 3 - XI
18	19	1040 7 - XI
19	20	1206 7 - XI
20	21	1422 7 - XI
21	22	1619 7 - XI
22	23	1745 7 - XI
23	24	2035 7 - XI
24*	25	0029 8 - XI
25	26	0515 8 - XI

*slide not available

INTRODUCTION

The oceanographic data contained herein were obtained on a survey carried out in C.S.S. BAFFIN (frontispiece) in November 1961 in the seaward approach to Halifax, N.S. and in a section across Cabot Strait (Fig. 1). The main object of the work was to obtain a preliminary assessment of the potential of the vessel in oceanographic survey. Secondary purposes included the training of personnel, the observation of data in sections routinely monitored by East Coast agencies, and the preliminary examination of the suitability of an area seaward of the port of Halifax for use as a gravity range (Stations 38, 39, and 40, see also Goodacre (1964)). A tabulation of the type of observation attempted at each station is given in Table I. In general, casts for serial data and bathythermograms were made at stations 1 to 25, while at stations 25 to 41 piston coring was carried out. This record consists of the serial and BT data so obtained.

EXTRACT OF CRUISE LOG

Depart Halifax	October 30, 1961
Occupy stations number 3 to 18	
Return Halifax	November 3
Depart Halifax	November 6
Occupy stations number 19 to 41	
Return Halifax	November 10, 1961

OBSERVATION PROCEDURES

Water samples at depth were taken using standard type reversing bottles. All were fitted with one protected reversing thermometer and on some casts an unprotected thermometer was employed. The surface observation at each station was made using a plastic bucket and hand-held thermometer. Samples for salinity determinations were drawn into new 8 oz. glass medicine bottles with hard plastic caps fitted with polythene inserts.

LABORATORY PROCEDURES AND EVALUATION OF DATA

The samples were "titrated" later at the Atlantic Oceanographic Group using a conductivity meter obtained from the National Institute of Oceanography and described by Cox (1961).

The presentation of data in this report is subject to modification and possible correction at a later date. The original records and BT slides are filed with the Marine Sciences Branch, Ottawa, and the cores have been forwarded to the Geological Survey of Canada at the Bedford Institute of Oceanography.

BATHYTHERMOGRAPH DATA

The bathythermograms were hand-drawn on pre-printed multilith masters after the trace had been suitable aligned in an adjustable grid holder. The number noted on each bathythermogram is the original slide number and relates this to the station number and time date group of Table II.

PERSONNEL

Oceanographic personnel at sea comprised F. Barber, J. Butters, J. Dugas, and B. Kelly. A. Kerr and K. White of the Canadian Hydrographic Service also participated. Salinity determinations were carried out by T.R. Foote and H.W. MacPhail.

SECTION II

Description of the machine-generated data record

INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation cycle.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. If interpolations are carried out, additional derived quantities are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "estimate of precision" for each observed variable selected for interpolation at the standard oceanographic depth. The precision depends on the instrument or technique used to determine the variable.

A standard precision stated as a standard deviation (σ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" of section II of the data record.

The measurement error estimate of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "interpolation error estimate" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; first, to give an indication of the quality of interpolated data; second, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S, O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "measurement error estimate" comprises the "combined measurement and interpolation error estimate". It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24			
IDENT. CODE		LATITUDE (N = +)		LONGITUDE (W = +)		DATE		TIME		DEPTH		HOURS		DAY		MONTH		YEAR		W.W. CODE		WET BULB		AIR TEMP.		BAROMETER		WIND		WAVES I		WAVES II		WIND		WIND		WIND		WIND		WIND		WIND					
COUNTRY	INST.	DEG. °	MIN.	1	10	DEG. °	MIN.	1	10	HOURS	1	10	DAY	1	10	MONTH	1	10	YEAR	1	10	WET BULB	1	10	AIR TEMP.	1	10	BAROMETER	1	10	WIND	1	10	WAVES I	1	10	WAVES II	1	10	WIND	1	10	WIND	1	10				
1	8																																																
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
COLOUR	TRANS.	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw	DW	DW	PW	Hw
VESSEL		ENTERED BY		CHECKED BY		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54			

O B S E R V E D C A R D

1	6		7	8	9	10	13	14	15	16	17	18
	HOURS	TIME										
1			DEPTH OF SAMPLE	TEMPERATURE	SALINITY	OXYGEN	PO ₄ - P.	TOTAL - P	NO ₂ - N	NO ₃ - N	SiO ₂ - Si	p.H.
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

- σ_i = Standard deviation of the combined error estimates at standard oceanographic depth,
 ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $^{1/3} (V_{i_1} - V_{i_2})$
 γ = Interpolation polynomial coefficient.
 Z_j = Observed depth.
 Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma_i}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma_i}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(10) DEPTH	(15) WAVES 1	(20) AIR T	(25) VIS
(2) CONS. NO	(7) MONTH	(11) MXSAMPD	(16) WAVES 2	(21) WET B	(26) STN
(3) LAT	(8) DAY	(12) NO. DPTH	(17) WND-DIR	(22) WW-CODE	
(4) LON	(9) HR	(13) W-COLOR	(18) WND-FCE	(23) CLD-TPE	
(5) MARSD SQ		(14) W-TRNSP	(19) BARO	(24) CLD-AMT	(27) HW

- (1) CRUISE REFERENCE NUMBER: Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the C.R.N. was a number designated by C.O.D.C.
- (2) CONSECUTIVE NUMBER: Indicates the chronological order in which the stations were occupied.
- (3) LATITUDE: Indicate the position of the platform at the time of observation
- (4) LONGITUDE:
- (5) MARSDEN SQUARE: Designates the geographic area code (see Marsden square chart) in which the observation is located.
- (6) YEAR:
- (7) MONTH:
- (8) DAY:
- (9) HOUR: The time (Greenwich Mean Time) at which the Master-card data were recorded.
It is reported to tenths of hours (Table 1).
If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.
- (10) DEPTH: The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section II. Charted depths are denoted by the sounding value, preceded by the letter "C".
- (11) MAXIMUM SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).
00 m - 50 m = 00
51 m - 150 m = 01
151 m - 250 m = 02
etc.

- (12) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch cards).
- (13) WATER COLOUR: A code based on the percentage of yellow (see table 2 and NOTE under FIELD "14" below).
- (14) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section II of the data record will state which method was used.
- (15) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (16) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant other-than wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (17) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing. Wind direction 990 means:—wind variable or direction unknown.
- (18) WIND FORCE
(WND-FCE): Beaufort Notation (See Table 6).
- WIND SPEED
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section II.
- (19) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section II of the data record will state the type of instrument used.
- (20) AIR TEMPERATURE: In degrees Celsius.
- (21) WET BULB: In degrees Celsius.
- (22) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (23) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (24) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (25) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (26) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (27) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO_4	(9) -P-	(10) NO_2	(11) NO_3	(12) SiO_2
				(13) pH.	

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

- (1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.
- When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.
- (2) DEPTH: The depth in metres at the moment the oceanographic bottle reversed.
- (3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of this section. An alphabetical character following the Temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.
- (4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 C1\%$, reported in:
- 1/100 parts per 1000, or
 - 1/1000 parts per 1000.
- In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3)
- In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.
- (5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).
- (6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).
- (7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

- (8) PO₄ Phosphate – Phosphorus reported to hundredths of microgram-atoms per litre.
- (9) -P- Total Phosphorus reported to hundredths of microgram-atoms per litre.
- (10) NO₂ Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included –
- (11) NO₃ Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
- (12) SiO₃ Silicate-Silicon reported in whole microgram-atoms per litre.
- (13) pH The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value smaller the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY: A. The reported salinity values are observed to three decimal places.
 (i) the interpolation error estimate is less than twice the standard deviation of measurement
 –the interpolated value is reported to three decimal places (e.g., 30.139).
 (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 –the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23C).
 B. The reported salinity values are observed to two decimal places and followed by the measurement error estimate.
 –the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND
VELOCITY: Computed from temperature and salinity values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^p \delta dp$$

ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2,345 dyn. metres).

(8) POTENTIAL
ENERGY
ANOMALY:

The Potential energy anomaly χ as defined by:

$$\chi = 1/g \int_0^p p \delta dp = \int_0^z \rho p \delta dz$$

χ is expressed in units of 10^8 ergs/cm² and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC
VOLUME
ANOMALY:

The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

SPECIAL CHARACTERS

† (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

* (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels within that interval are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas.

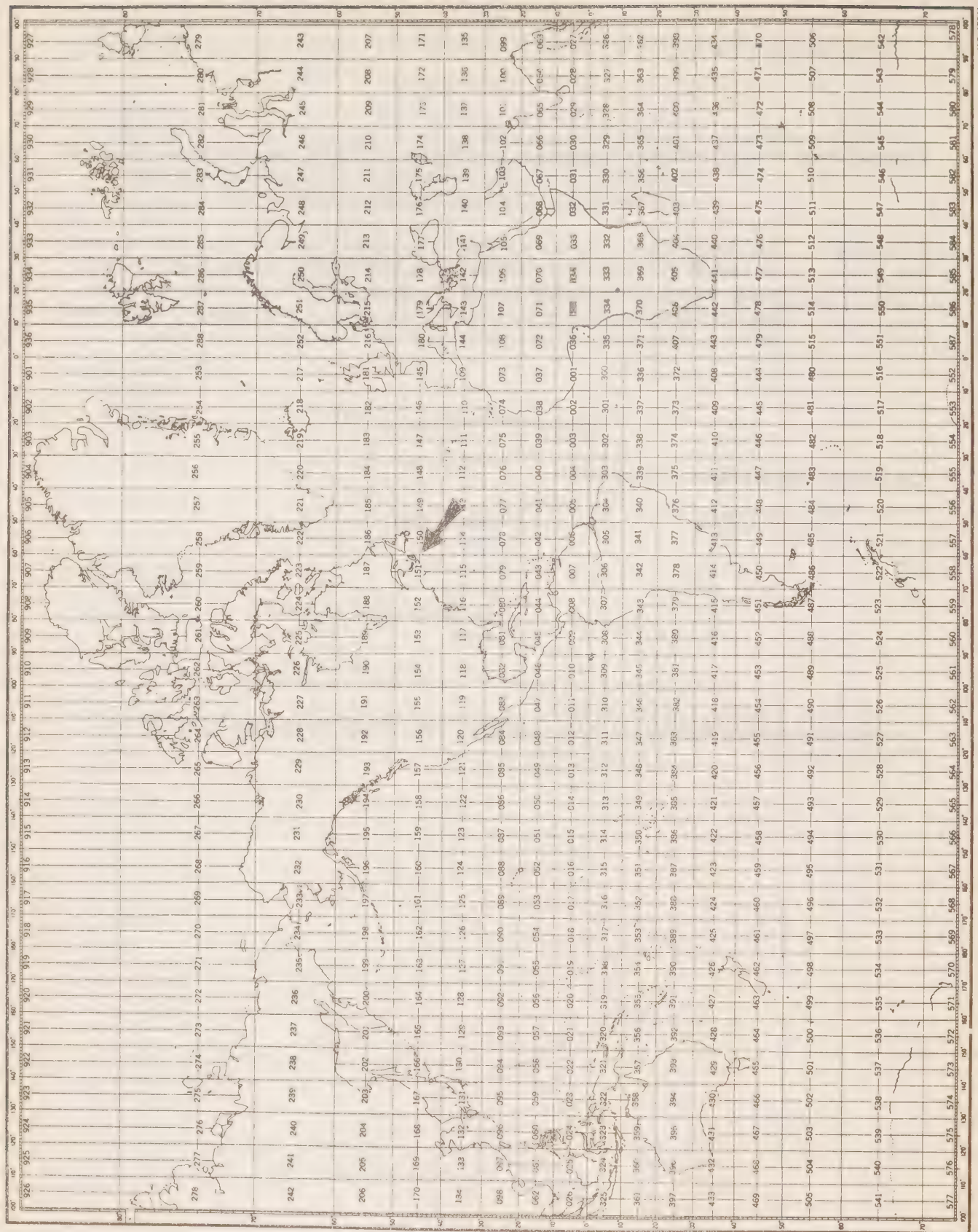
DOUBTFUL DATA CODES

The doubtful data are reported as follows:

<u>Code</u>	<u>Doubtful Data</u>
1	depth
2	temperature
3	salinity
4	any combination of 1, 2, and 3,
5	oxygen

NOTE: Codes 1 to 4 inclusive take precedence over code 5

Location of the doubtful data code is in the "Observed Data" portion, between the "DEPTH" and "TEMP" columns.



MARSDEN SQUARE CHART

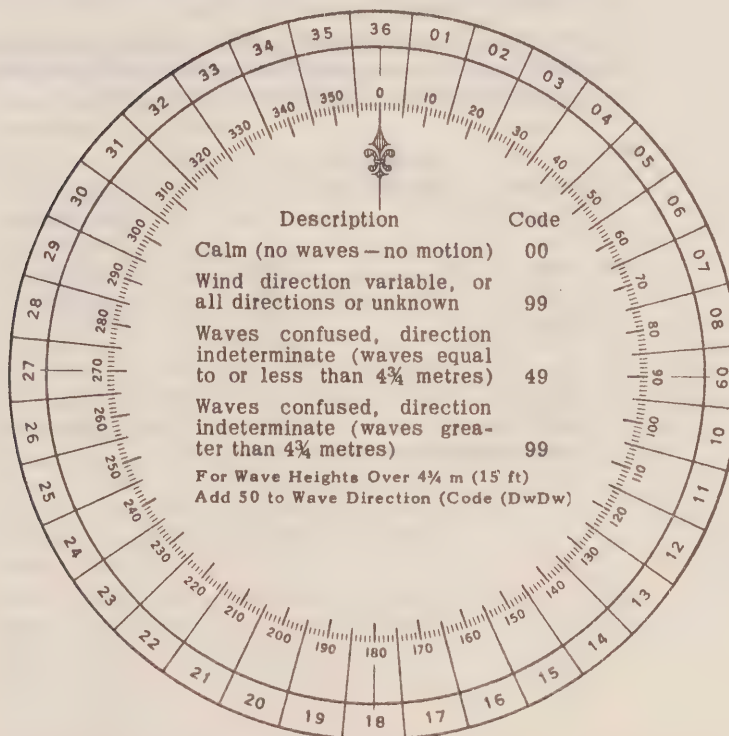
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (P_w)
(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (H_w)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m ($2\frac{1}{2}$ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m ($13\frac{1}{2}$ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code			Code	
0	Less than ¼ m (1 ft)		0	5 m (16 ft)
1	½ m (1½ ft)		1	5½ m (17½ ft)
2	1 m (3 ft)		2	6 m (19 ft)
3	1½ m (5 ft)	Add	3	6½ m (21 ft)
4	2 m (6½ ft)	50	4	7 m (22½ ft)
5	2½ m (8 ft)	to	5	7½ m (24 ft)
6	3 m (9½ ft)	Dw Dw	6	8 m (25½ ft)
7	3½ m (11 ft)		7	8½ m (27 ft)
8	4 m (13 ft)		8	9 m (29 ft)
9	4½ m (14 ft)		9	9½ m (30½ ft) or more
x	Height not determined			

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure ww			
No meteors except photometeors	00	Cloud development not observed or not observable	
	01	Clouds generally dissolving or becoming less developed	
	02	State of sky on the whole unchanged	
	03	Clouds generally forming or developing	
Haze, dust, sand or smoke	04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes	
	05	Haze	
	06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation	
	07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen	
	08	Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm	
	09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour	
	10	Mist	
	11	Patches of	shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea
	12	More of less continuous	
	13	Lightning visible, no thunder heard	
	14	Precipitation within sight, not reaching the ground or the surface of the sea	
	15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station	
	16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station	
	17	Thunderstorm, but no precepitation at the time of observation	
	18	Squalls	at or within sight of the station during the preceding hour or at the time of observation
	19	Funnel clouds	

ww = 20 - 29	20	Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation	
	20	Drizzle (not freezing) or snow grains	not falling as shower(s)
	21	Rain (not freezing)	
	22	Snow	
	23	Rain and snow or ice pellets, type (a)	
	24	Freezing drizzle or freezing rain	
	25	Shower(s) of rain	
	26	Shower(s) of snow, or of rain and snow	
	27	Shower(s) of hail, or of rain and hail	
	28	Fog or ice fog	
	29	Thunderstorm (with or without precipitation)	
ww = 30 - 39	30	Duststorm, sandstorm, drifting or blowing snow	
	30	Slight or moderate dust-storm or sand-storm	-has decreased during the preceding hour
	31		-no appreciable change during the preceding hour
	32	Severe dust-storm or sand-storm	-has begun or has increased during the preceding hour
	33		-has decreased during the preceding hour
	34		-no appreciable change during the preceding hour
	35		-has begun or has increased during the preceding hour
	36	Slight or moderate blowing snow	generally low (below eye level)
	37	Heavy drifting snow	
	38	Slight or moderate blowing snow	generally high (above eye level)
	39	Heavy blowing snow	
ww = 40 - 49	40	Fog or ice fog at the time of observation	
	40	Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
	41	Fog or ice fog in patches	
	42	Fog or ice fog, sky visible	has become thinner during the preceding hour
	43	Fog or ice fog, sky invisible	
	44	Fog or ice fog, sky visible	no appreciable change during the preceding hour
	45	Fog or ice fog, sky invisible	
	46	Fog or ice fog, sky visible	has begun or has become thicker during the preceding hour
	47	Fog or ice fog, sky invisible	
	48	Fog, depositing rime, sky visible	
	49	Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle

50	Drizzle, not freezing, intermittent	} slight at time of observation
51	Drizzle, not freezing, continuous	
52	Drizzle, not freezing, intermittent	} moderate at time of observation
53	Drizzle, not freezing, continuous	
54	Drizzle, not freezing, intermittent	} heavy (dense) at time of observation
55	Drizzle, not freezing, continuous	
56	Drizzle, freezing, slight	
57	Drizzle, freezing, moderate or heavy (dense)	
58	Drizzle and rain, slight	
59	Drizzle and rain, moderate or heavy	

ww = 60 - 69 Rain

60	Rain, not freezing, intermittent	} slight at time of observation
61	Rain, not freezing, continuous	
62	Rain, not freezing, intermittent	} moderate at time of observation
63	Rain, not freezing, continuous	
64	Rain, not freezing, intermittent	} heavy at time of observation
65	Rain, not freezing, continuous	
66	Rain, freezing, slight	
67	Rain, freezing, moderate or heavy	
68	Rain or drizzle and snow, slight	
69	Rain or drizzle and snow, moderate or heavy	

70 - 79 Solid precipitation not in showers

ww		
70	Intermittent fall of snow flakes	} slight at time of observation
71	Continuous fall of snow flakes	
72	Intermittent fall of snow flakes	} moderate at time of observation
73	Continuous fall of snow flakes	
74	Intermittent fall of snow flakes	} heavy at time of observation
75	Continuous fall of snow flakes	
76	Ice prisms (with or without fog)	
77	Snow grains (with or without fog)	
78	Isolated starlike snow crystals (with or without fog)	
79	Ice pellets, type (a)	

ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

80	Rain shower(s), slight	
81	Rain shower(s), moderate or heavy	
82	Rain shower(s), violent	
83	Shower(s) of rain and snow mixed, slight	
84	Shower(s) of rain and snow mixed, moderate or heavy	
85	Snow shower(s), slight	
86	Snow shower(s), moderate or heavy	
87	Shower(s) of snow pellets or ice pellets, type (b), with or without rain	} - slight
88	or rain and snow mixed	
89	Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder	} - moderate or heavy
90		
91	Slight rain at time of observation	} thunderstorm during the preceding hour but not at time of observation
92	Moderate or heavy rain at time of observation	
93	Slight snow, or rain and snow mixed or hail at time of observation	
94	Moderate or heavy snow, or rain and snow mixed or hail at time of observation	} thunderstorm at time of observation
95	Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation	
96	Thunderstorm, slight or moderate, with hail at time of observation	
97	Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation	
98	Thunderstorm, combined with duststorm or sandstorm at time of observation	
99	Thunderstorm, heavy, with hail at time of observation	

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Cl	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
X	Cloud not visible owing to darkness, fog, dust storm, sand storm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
90	Less than 50 metres (less than 55 yards)
91	50-200 metres (approx. 55-220 yards)
92	200-500 metres (approx. 220-550 yards)
93	500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.)
94	1-2 km (approx. $\frac{3}{8}$ -1 n.m.)
95	2-4 km (approx. 1-2 n.m.)
96	4-10 km (approx. 2-6 n.m.)
97	10-20 km (approx. 6-12 n.m.)
98	20-50 km (approx. 12-30 n.m.)
99	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

GENERAL INFORMATION

<u>Institute:</u>	Division of Oceanographic Research, Ottawa.
<u>Observation platform:</u>	C.S.S. "Baffin"
<u>Vessel's cruising speed:</u>	15 knots
<u>Total number of stations occupied:</u>	25 (with casts for serial data)
<u>Anemometer height above sea level:</u>	22 metres
<u>Barometer readings</u>	were obtained using an Aneroid Barometer and were corrected prior to recording
<u>Air temperature</u>	was observed from a Sling Psychrometer
<u>Wet bulb temperature</u>	was observed from a Sling Psychrometer
<u>Surface Sea water temperature</u>	was obtained from a bucket sample using a hand-held thermometer.

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature	0.02
Salinity	0.003

SECTION III

Serial oceanographic data

C-REF-NO 352	YR 1961	DEPTH 135	WAVES 1 28XX	AIR T 13.1	VIS 98
CONS. NO 001	MONTH 10	MXSAMPD 01	WAVES 2 2226	WET B 11.4	STN 001
LAT 44-156N	DAY 30	NO.DPTH 7	WND-DIR 280	WW-CODE 02	
LON 63-197W	HR 22.6	W-COLOR	WND-SPD 06	CLD-TPE 6	
MARSD SQ 151		W-TRNSP	BARO 1000.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
226	0000	123	30180		2282	14925
226	0010	1224	30173		2283	14924
226	0020	1224	30185		2284	14926
226	0030	1233	30273		2289	14932
226	0050	1338	31545		2367	14987
226	0075	0484	32286		2557	14680
226	0100	0202	32702		2615	14568

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1230	30180		2282	14925	0000	00000	5044
0010	1224	30173		2283	14924	0051	00003	5041
0020	1224	30185		2284	14926	0101	00010	5034
0030	1233	30273		2289	14932	0151	00023	4987
0050	1338	31545		2367	14987	0244	00060	4247
0075	0484	32286		2557	14680	0328	00111	2434
0100	0202	32702		2615	14568	0382	00159	1871

C-REF-NO 352 YR 1961 DEPTH 258 WAVES 1 27XX AIR T 12.5 VIS 97
 CONS. NO 002 MONTH 10 MXSAMPD 02 WAVES 2 2226 WET B 12.0 STN 002
 LAT 43-530N DAY 31 NO.DPTH 9 WND-DIR 270 WW-CODE 80
 LON 62-520W HR 02.4 W-COLOR WND-SPD 07 CLD-TPE 6
 MARSD SQ 151 W-TRNSP. BARO 1000. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
024	0000	125	31549		2384	14949
024	0010	1249	31553		2385	14950
024	0020	1251	31579		2386	14953
024	0030	1252	31615		2389	14955
024	0050	0394	32484		2582	14640
024	0075	0266	32917		2628	14595
024	0100	0428	33383		2649	14675
024	0150	0612	34055		2681	14768
024	0200	0668	34317		2695	14802

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1250	31549		2384	14949	0000	00000	4070
0010	1249	31553		2385	14950	0041	00002	4068
0020	1251	31579		2386	14953	0082	00008	4054
0030	1252	31615		2389	14955	0122	00019	4032
0050	0394	32484		2582	14640	0185	00042	2194
0075	0266	32917		2628	14595	0235	00074	1757
0100	0428	33383		2649	14675	0276	00111	1554
0125	0540 B	33766		2667	14730	0313	00153	1390
0150	0612	34055		2681	14768	0347	00200	1264
0175	0663 B	3423 B		2688	14795	0378	00252	1203
0200	0668	34317		2695	14802	0408	00309	1148

C-REF-NO 352	YR 1961	DEPTH 82	WAVES 1 24X4	AIR T 13.8	VIS 96
CONS. NO 003	MONTH 10	MXSAMPD 01	WAVES 2 2426	WET B 12.9	STN 003
LAT 43-291N	DAY 31	NO.DPTH 6	WND-DIR 240	WW-CODE 02	
LON 62-269W	HR 08.2	W-COLOR	WND-SPD 07	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 998.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
082	0000	124	31751		2402	14948
082	0010	1246	31742		2400	14951
082	0019	1258	31836		2405	14958
082	0029	1272	32104		2423	14968
082	0048	0380	32771		2606	14638
082	0072	0430	33306		2643	14670

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1240	31751		2402	14948	0000	00000	3903
0010	1246	31742		2400	14951	0039	00002	3923
0020	1267 C	31858		2405	14962	0079	00008	3878
0030	1230 H	3214 B		2434	14954	0116	00018	3606
0050	0700 I	3275 I		2567	14769	0176	00041	2334

C-REF-NO 352	YR 1961	DEPTH 95	WAVES 1 27X3	AIR T 13.1	VIS 96
CONS. NO 004	MONTH 10	MXSAMPD 01	WAVES 2 2246	WET B 12.2	STN 004
LAT 43-110N	DAY 31	NO.DPTH 6	WND-DIR 270	WW-CODE 02	
LON 62-077W	HR 10.3	W-COLOR	WND-SPD 10	CLD-TPE 6	
MARSD SQ 151		W-TRNSP	BARO 998.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
103	0000	132	32323		2430	14982
103	0010	1331	32320		2428	14987
103	0020	1330	32336		2429	14989
103	0030	1140	32763		2499	14930
103	0050	0744	33545		2623	14797
103	0075	0781	33989		2653	14821

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1320	32323		2430	14982	0000	00000	3630
0010	1331	32320		2428	14987	0037	00002	3655
0020	1330	32336		2429	14989	0073	00008	3644
0030	1140	32763		2499	14930	0107	00016	2987
0050	0744	33545		2623	14797	0155	00034	1801
0075	0781	33989		2653	14821	0197	00061	1526

C-REF-NO 352	YR 1961	DEPTH 1280	WAVES 1 30X8	AIR T 14.2	VIS 97
CONS. NO 005	MONTH 10	MXSAMPD 10	WAVES 2 2429	WET B 13.1	STN 005
LAT 42-510N	DAY 31	NO.DPTH 15	WND-DIR 260	WW-CODE 02	
LON 61-440W	HR 13.4	W-COLOR	WND-SPD 13	CLD-TPE 8	
MARSD SQ 151		W-TRNSP	BARO 999.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
142	0000	146	32919		2448	15036
142	0010	1453	32922		2449	15035
142	0020	1450	32934		2451	15036
142	0030	1390	33011		2469	15019
142	0050	0924	33100		2562	14860
142	0075	0783	33266		2596	14812
142	0100	0668	34057		2674	14782
142	0150	0808	34751		2709	14854
134	0196	0780	34788		2716	14851
134	0246	0718	34829		2728	14836
134	0296	0634	34827		2739	14811
134	0395	0605	34970		2754	14817
134	0595	0484	34792		2755	14799
134	0794	0430	34941		2773	14812
134	0994	0404	34940		2776	14834

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1460	32919		2448	15036	0000	00000	3466
0010	1453	32922		2449	15035	0035	00002	3452
0020	1450	32934		2451	15036	0069	00007	3440
0030	1390	33011		2469	15019	0103	00016	3267
0050	0924	33100		2562	14860	0160	00038	2391
0075	0783	33266		2596	14812	0216	00074	2066
0100	0668	34057		2674	14782	0259	00111	1327
0125	0718 I	3452 G		2704	14812	0289	00145	1052
0150	0808	34751		2709	14854	0315	00181	1012
0175	0804 C	3481 H		2714	14857	0340	00223	0969
0200	0776	34792		2717	14850	0364	00269	0944
0225	0747	34814		2723	14843	0387	00320	0891
0250	0711	34829		2729	14834	0409	00373	0834
0300	0631	34832		2740	14810	0448	00484	0731
0400	0602	3497 B		2755	14817	0516	00724	0608
0500	0543 C	3490 I		2756	14808	0577	01005	0598
0600	0482	34795		2755	14799	0638	01351	0610
0700	0450	3486 G		2764	14803	0696	01735	0533
0800	0422 B	3486 I		2767	14808	0748	02141	0509
1000	0404	34944		2776	14835	0845	03030	0446

C-REF-NO 352	YR 1961	DEPTH 2944	WAVES 1 26X4	AIR T 15.4	VIS 98
CONS. NO 006	MONTH 10	MXSAMPD 12	WAVES 2 2246	WET B 13.7	STN 006
LAT 42-303N	DAY 31	NO.DPTH 16	WND-DIR 260	WW-CODE 01	
LON 61-226W	HR 17.0	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 151		W-TRNSP	BARO 999.	CLD-AMT 2	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	179	0000	150	32719		2424	15046
	179	0010	1504	32726		2423	15049
	179	0020	1503	32709		2422	15050
	179	0030	1502	32704		2422	15051
	179	0050	1060	33101		2539	14910
	179	0075	0709	33811		2649	14791
	179	0100		34344			
	179	0150	0978	35078		2707	14921
	170	0200	0772	34894		2725	14850
	170	0250	0680	34854		2735	14822
	170	0300	0606				
	170	0400	0552	34932		2758	14796
	170	0600	0482	34855		2760	14800
	170	0800	0430	34956		2774	14813
	170	1000	0402	34944		2776	14834
1	170	1200	0406	34945		2776	14869

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1500	32719		2424	15046	0000	00000	3694
0010	1504	32726		2423	15049	0037	00002	3700
0020	1503	32709		2422	15050	0074	00008	3713
0030	1502	32704		2422	15051	0112	00017	3717
0050	1060	33101		2539	14909	0175	00042	2607
0075	0709	33811		2649	14791	0228	00074	1560
0100	0727 I	34344		2689	14809	0262	00105	1191
0125	0817 I	3480 G		2711	14853	0290	00136	0987
0150	0978	35078		2707	14921	0315	00172	1034
0175	0887 I	3503 I		2719	14891	0340	00213	0926
0200	0772	34894		2725	14850	0363	00256	0863
0225	0718 B	3486 B		2731	14833	0384	00302	0814
0250	0680	34854		2735	14822	0404	00351	0773
0300	0606	3487 E		2746	14801	0440	00453	0671
0400	0552	34932		2758	14796	0503	00676	0570
0500	0513	3490 E		2760	14796	0560	00940	0561
0600	0482	34855		2760	14800	0617	01262	0565
0700	0453	3490 D		2767	14805	0671	01623	0507
0800	0430	34956		2774	14813	0719	01994	0449
1000	0402	34944		2776	14834	0810	02831	0443

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
1200	0406	34945		2776	14869	0902	03877	0466

C-REF-NO 352	YR 1961	DEPTH 4041	WAVES 1 25X4	AIR T 17.5	VIS 98
CONS. NO 007	MONTH 10	MXSAMPD 02	WAVES 2 2246	WET B 15.3	STN 007
LAT 42-000N	DAY 31	NO.DPTH 9	WND-DIR 250	WW-CODE 03	
LON 61-000W	HR 21.8	W-COLOR	WND-SPD 15	CLD-TPE 9	
MARSD SQ 151		W-TRNSP	BARO 998.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
218	0000	205	35671		2516	15243
218	0010	2082	35608		2502	15252
218	0020	2084	35608		2502	15254
218	0030	2082	35615		2503	15256
218	0050	2084	35605		2502	15259
218	0075	1653	35703		2618	15142
218	0100	1586	35929		2651	15129
218	0150	1456	35809		2671	15094
218	0200	1302	35587		2686	15050

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	2050	35671		2516	15243	0000	00000	2816
0010	2082	35608		2502	15252	0029	00002	2947
0020	2084	35608		2502	15254	0059	00006	2956
0030	2082	35615		2503	15256	0088	00014	2950
0050	2084	35605		2502	15259	0148	00038	2969
0075	1653	35703		2618	15142	0209	00075	1867
0100	1586	35929		2651	15129	0252	00114	1562
0125	1522	3592 I		2665	15113	0290	00157	1436
0150	1456	35809		2671	15094	0325	00207	1388
0175	1378	3579 I		2686	15073	0358	00262	1247
0200	1302	35587		2686	15049	0390	00323	1254

C-REF-NO 352	YR 1961	DEPTH 4353	WAVES 1 27X6	AIR T 17.5	VIS 98
CONS. NO 008	MONTH 11	MXSAMPD 03	WAVES 2 2246	WET B 14.8	STN 008
LAT 41-590N	DAY 01	NO.DPTH 10	WND-DIR 270	WW-CODE	
LON 60-000W	HR 03.5	W-COLOR	WND-SPD 18	CLD-TPE 8	
MARSD SQ 151		W-TRNSP	BARO 999.	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
035	0000	211	35758		2506	15260
035	0010	2089	35668		2505	15255
035	0020	2083	35657		2506	15255
035	0030		35655			
035	0050	2084	35656		2506	15260
035	0075	2055	35759		2521	15257
035	0100	1690	35962		2629	15161
035	0150	1621	36066		2654	15149
035	0200	1490	35903		2671	15115
035	0300	1220	35503		2696	15037

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	2110	35758		2506	15260	0000	00000	2908
0010	2089	35668		2505	15255	0029	00002	2922
0020	2083	35657		2506	15255	0059	00006	2918
0030	2084 B	35655		2505	15257	0088	00014	2926
0050	2084	35656		2506	15260	0147	00038	2933
0075	2055	35759		2521	15257	0219	00084	2793
0100	1690	35962		2629	15161	0276	00133	1770
0125	1604 I	3606 B		2657	15140	0318	00181	1518
0150	1621	36066		2654	15149	0357	00236	1556
0175	1560	3600 C		2663	15134	0395	00299	1475
0200	1490	35903		2671	15115	0431	00369	1406
0225	1443 E	3589 I		2680	15104	0465	00444	1323
0250	1375 D	3579 I		2687	15084	0498	00523	1264
0300	1220	35503		2696	15037	0560	00697	1184

C-REF-NO 352	YR 1961	DEPTH 4609	WAVES 1 25X2	AIR T 18.2	VIS 98
CONS. NO 009	MONTH 11	MXSAMPD 03	WAVES 2 2446	WET B 14.7	STN 009
LAT 42-000N	DAY 01	NO.DPTH 10	WND-DIR 270	WW-CODE 02	
LON 58-570W	HR 07.7	W-COLOR	WND-SPD 05	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1000.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
077	0000	156	32734		2412	15065
077	0010	1543	32727		2415	15061
077	0020	1542	32724		2415	15063
077	0030	1576	32789		2412	15076
077	0050	2098	35560		2494	15262
077	0075	1356	34973		2628	15039
077	0100	1384	35491		2662	15059
077	0150	1368	35655		2678	15064
077	0200	1249	35519		2691	15031
077	0300	1012	35243		2714	14961

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1560	32734		2412	15065	0000	00000	3808
0010	1543	32727		2415	15061	0038	00002	3780
0020	1542	32724		2415	15063	0076	00008	3783
0030	1576	32789		2412	15076	0114	00018	3810
0050	2098	35560		2494	15262	0183	00045	3038
0075	1356	34973		2628	15039	0244	00082	1774
0100	1384	35491		2662	15059	0284	00118	1458
0125	1388	3566 I		2674	15067	0320	00158	1347
0150	1368	35655		2678	15064	0353	00206	1320
0175	1315 B	3561 D		2685	15050	0386	00260	1258
0200	1249	35519		2691	15031	0417	00319	1201
0225	1224 H	3555 I		2699	15027	0446	00384	1138
0250	1163 G	3548 I		2705	15009	0474	00452	1085
0300	1012	35243		2714	14961	0527	00600	1002

C-REF-NO 352 YR 1961 DEPTH 4645 WAVES 1 17X1 AIR T 16.9 VIS 98
 CONS. NO 010 MONTH 11 MXSAMPD 12 WAVES 2 2629 WET B 15.9 STN 010
 LAT 42-000N DAY 01 NO.DPTH 14 WND-DIR 170 WW-CODE 02
 LON 58-005W HR 12.1 W-COLOR WND-SPD 07 CLD-TPE 5
 MARSD SQ 150 W-TRNSP BARO 1001. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
128	0000	161	32870		2411	15082
128	0010	1558	32835		2420	15067
128	0050	1772	35888		2604	15176
128	0075	1636	35722		2624	15137
128	0100	1536	35908		2661	15113
128	0150	1393	35715		2677	15073
121	0200	1292	35624		2691	15047
121	0300	0986	35215		2716	14951
121	0400	0733	34958		2736	14869
121	0500	0531	34861		2755	14803
121	0600	0541	34979		2763	14826
121	0800	0466	34972		2771	14828
121	1000	0430	34970		2775	14846
121	1250	0404	34963		2777	14877

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1610	32870		2411	15082	0000	00000	3815
0010	1558	32835		2420	15067	0038	00002	3733
0020	1605 I	3355 I		2464	15092	0073	00007	3313
0030	1656 I	3430 I		2510	15119	0104	00015	2883
0050	1772	35888		2604	15176	0154	00034	1996
0075	1636	35722		2624	15137	0202	00065	1815
0100	1536	35908		2661	15113	0243	00101	1469
0125	1457	3585 I		2674	15091	0278	00142	1351
0150	1393	35715		2677	15073	0312	00190	1327
0175	1342 B	3567 C		2684	15060	0345	00244	1266
0200	1292	35624		2691	15047	0376	00304	1207
0225	1220 C	3553 E		2698	15025	0406	00369	1145
0250	1144 D	3543 F		2705	15002	0434	00437	1086
0300	0986	35215		2716	14951	0486	00583	0979
0400	0733	34958		2736	14869	0575	00900	0794
0500	0531	34861		2755	14803	0646	01223	0609
0600	0541	34979		2763	14826	0705	01552	0547
0700	0509 D	3500 E		2768	14829	0758	01907	0506
0800	0466	34972		2771	14828	0808	02292	0481
1000	0430	34970		2775	14846	0903	03171	0459
1200	0405	34964		2777	14869	0995	04215	0451

C-REF-NO 352 YR 1961 DEPTH 4682 WAVES 1 20X4 AIR T 21.8 VIS 97
 CONS. NO 011 MONTH 11 MXSAMPD 03 WAVES 2 2246 WET B 19.4 STN 011
 LAT 41-575N DAY 01 NO.DPTH 10 WND-DIR 200 WW-CODE 02
 LON 56-585W HR 16.8 W-COLOR WND-SPD 09 CLD-TPE 6
 MARSD SQ 150 W-TRNSP BARO 1000. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
168	0000	210	35433		2484	15253
168	0010	2074	35476		2495	15248
168	0020	2077	35466		2493	15251
168	0030	2076	35468		2493	15252
168	0050	1762	35484		2575	15168
168	0075	1682	36180		2648	15157
168	0100	1622	36103		2656	15142
168	0150	1440	35821		2675	15089
168	0200	1344	35698		2686	15065
168	0300	1056	35324		2713	14977

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	2100	35433		2484	15253	0000	00000	3117
0010	2074	35476		2495	15248	0031	00002	3022
0020	2077	35466		2493	15251	0061	00006	3041
0030	2076	35468		2493	15252	0092	00014	3040
0050	1762	35484		2575	15168	0145	00035	2267
0075	1682	36180		2648	15157	0194	00065	1585
0100	1622	36103		2656	15142	0233	00100	1515
0125	1531 D	3596 E		2666	15116	0270	00143	1426
0150	1440	35821		2675	15089	0305	00192	1346
0175	1389 C	3575 C		2681	15076	0338	00247	1298
0200	1344	35698		2686	15065	0370	00309	1255
0225	1245 I	3555 I		2695	15034	0401	00376	1175
0250	1179 G	3547 H		2701	15014	0430	00446	1120
0300	1056	35324		2713	14977	0484	00598	1018

C-REF-NO 352 YR 1961 DEPTH 4389 WAVES 1 20X9 AIR T 21.1 VIS 97
 CONS. NO 012 MONTH 11 MXSAMPD 10 WAVES 2 2229 WET B 19.2 STN 012
 LAT 41-590N DAY 01 NO.DPTH 14 WND-DIR 210 WW-CODE 03
 LON 56-020W HR 20.7 W-COLOR WND-SPD 15 CLD-TPE 8
 MARSD SQ 150 W-TRNSP BARO 1002. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
213	0000	201	35160		2488	15226
213	0009	1979	34884		2475	15216
213	0019	1995	34993		2479	15223
213	0028	2030	35167		2483	15236
213	0047	2045	35406		2497	15246
213	0071	1730	36197		2638	15170
213	0142	1438	35754		2671	15087
213	0189	1262	35528		2690	15034
207	0292	1043	35288		2712	14971
207	0392	0798	35044		2733	14893
207	0492	0650	35047		2754	14852
207	0592	0517	34970		2765	14814
207	0792	0440	34949		2772	14815
207	0992	0423	34968		2776	14842

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	2010	35160		2488	15226	0000	00000	3084
0010	1979	3488 B		2475	15216	0032	00002	3211
0020	1999	35012		2479	15224	0064	00007	3171
0030	2039 B	3519 C		2482	15239	0095	00015	3148
0050	2013 D	3550 F		2513	15239	0156	00039	2861
0075	1700 D	3623 I		2647	15163	0212	00073	1594
0100	1551 I	3626 I		2685	15122	0248	00105	1245
0125	1463 I	3604 I		2688	15095	0279	00140	1223
0150	1406	35711		2674	15077	0311	00187	1356
0175	1311	35589		2684	15048	0344	00241	1263
0200	1234 B	3549 B		2692	15025	0375	00301	1191
0225	1174 E	3543 E		2699	15008	0405	00365	1137
0250	1121 E	3537 E		2704	14993	0433	00433	1089
0300	1022	35264		2714	14965	0485	00582	1004
0400	0784	3504 B		2735	14889	0577	00905	0807
0500	0638	35041		2756	14849	0649	01232	0615
0600	0511	34967		2766	14813	0706	01554	0518
0700	0456 D	3495 B		2770	14807	0756	01889	0478
0800	0409 I	3493 E		2774	14804	0803	02248	0444
1000	0426	34972		2776	14845	0894	03091	0453

C-REF-NO 352	YR 1961	DEPTH 3749	WAVES 1 27X2	AIR T. 15.3	VIS 97
CONS. NO 013	MONTH 11	MXSAMPD 03	WAVES 2 2182	WET B 13.1	STN 013
LAT 43-000N	DAY 02	NO.DPTH 11	WND-DIR 290	WW-CODE 02	
LON 56-000W	HR 03.2	W-COLOR	WND-SPD 07	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 1004.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
032	0000	161	32467		2380	15077
032	0010	1600	32458		2382	15076
032	0020	1601	32468		2382	15078
032	0030	1663	32745		2389	15102
032	0050	1135	33061		2523	14936
032	0075	0214	32836		2625	14571
032	0100	0278	33287		2656	14610
032	0150	0684	34370		2697	14801
032	0200	0766	34734		2714	14846
032	0250	0717	34800		2726	14836
032	0300	0659	34799		2734	14821

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1610	32467		2380	15077	0000	00000	4109
0010	1600	32458		2382	15076	0041	00002	4097
0020	1601	32468		2382	15078	0082	00008	4095
0030	1663	32745		2389	15102	0123	00019	4030
0050	1135	33061		2523	14936	0191	00046	2763
0075	0214	32836		2625	14571	0249	00081	1778
0100	0278	33287		2656	14610	0290	00117	1488
0125	0478 I	3386 I		2682	14706	0324	00156	1252
0150	0684	34370		2697	14801	0354	00198	1122
0175	0753 D	3462 F		2706	14835	0381	00244	1039
0200	0766	34734		2714	14846	0407	00292	0973
0225	0750 C	3479 C		2720	14844	0431	00344	0913
0250	0717	34800		2726	14836	0453	00399	0863
0300	0659	34799		2734	14821	0495	00516	0793

C-REF-NO 352	YR 1961	DEPTH 4023	WAVES 1 27X3	AIR T 14.6	VIS 98
CONS. NO 014	MONTH 11	MXSAMPD 10	WAVES 2 2746	WET B 11.2	STN 014
LAT 43-000N	DAY 02	NO.DPTH 15	WND-DIR 270	WW-CODE 02	
LON 56-580W	HR 07.5	W-COLOR	WND-SPD 13	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1007.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
083	0000	151	32056		2371	15041
083	0010	1483	32047		2376	15034
083	0020	1637	33195		2430	15098
083	0030	1871	34653		2485	15186
083	0050	0383	32775		2606	14640
083	0075	0246	32968		2633	14587
083	0100	0404	33652		2673	14669
083	0150	0690	34545		2710	14805
075	0197	0698	34777		2727	14819
075	0295	0548	34770		2746	14775
075	0393	0503	34874		2759	14774
075	0492	0472	34919		2766	14779
075	0591	0444	34929		2770	14784
075	0788	0426	34963		2775	14809
075	0988	0400	34951		2777	14831

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1510	32056		2371	15041	0000	00000	4200
0010	1483	32047		2376	15034	0042	00002	4154
0020	1637	33195		2430	15098	0081	00008	3642
0030	1871	34653		2485	15186	0115	00017	3121
0050	0383	32775		2606	14640	0166	00036	1964
0075	0246	32968		2633	14587	0212	00066	1702
0100	0404	33652		2673	14669	0251	00099	1328
0125	0567 E	34180		2697	14747	0281	00134	1114
0150	0690	34545		2710	14805	0308	00172	1000
0175	0713 D	3472 F		2720	14821	0332	00212	0909
0200	0694	3478 B		2727	14818	0354	00254	0838
0225	0661 F	3480 I		2734	14810	0375	00298	0781
0250	0624 G	3481 I		2739	14799	0394	00345	0734
0300	0544	34775		2747	14775	0429	00444	0664
0400	0501	34879		2760	14775	0490	00661	0547
0500	0469	34920		2767	14779	0542	00902	0490
0600	0443	34931		2771	14785	0591	01173	0462
0700	0431	34949		2773	14797	0636	01479	0445
0800	0416 C	3495 B		2775	14807	0681	01822	0433
1000	0399	34950		2777	14833	0769	02638	0436

C-REF-NO 352	YR 1961	DEPTH 3858	WAVES 1 27X4	AIR T 12.5	VIS 98
CONS. NO 015	MONTH 11	MXSAMPD 03	WAVES 2 2646	WET B 09.1	STN 015
LAT 43-000N	DAY 02	NO.DPTH 11	WND-DIR 280	WW-CODE 01	
LON 58-000W	HR 14.6	W-COLOR	WND-SPD 11	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 1017.	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
146	0000	141	32246		2406	15011
146	0010	1432	32226		2400	15020
146	0019	1433	32218		2399	15021
146	0029	1433	32224		2400	15023
146	0048	1428	32264		2404	15025
146	0072	0547	33269		2627	14718
146	0097	0596	33998		2679	14752
146	0145	0671	34550		2713	14797
146	0193	0662	34701		2726	14803
146	0241	0580	34682		2735	14778
146	0290	0512	34699		2744	14759

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1410	32246		2406	15011	0000	00000	3860
0010	1432	32226		2400	15020	0039	00002	3920
0020	1433	32218		2399	15021	0079	00008	3931
0030	1440 C	3222 B		2398	15026	0118	00018	3949
0050	1356 I	3233 F		2424	15002	0195	00049	3703
0075	0527 I	33373		2638	14712	0262	00089	1665
0100	0602	3406 C		2682	14756	0299	00122	1246
0125	0646	3441 I		2705	14782	0328	00154	1038
0150	0674	3458 B		2714	14799	0353	00190	0953
0175	0675	3468 C		2722	14805	0376	00228	0885
0200	0652	3470 B		2727	14800	0398	00270	0840
0225	0611 B	3470 C		2732	14788	0419	00315	0795
0250	0582 D	3472 G		2737	14781	0438	00362	0746

C-REF-NO 352	YR 1961	DEPTH 3402	WAVES 1 30X4	AIR T 10.8	VIS 98
CONS. NO 016	MONTH 11	MXSAMPD 02	WAVES 2 3046	WET B 07.5	STN 016
LAT 42-59QN	DAY 02	NO.DPTH 9	WND-DIR 300	WW-CODE 02	
LON 58-585W	HR 20.0	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 1022.	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
200	0000	127	31477		2375	14955
200	0010	1246	31466		2379	14948
200	0020	1251	31468		2378	14951
200	0030	1258	31917		2411	14961
200	0050	0696	32866		2577	14769
200	0075	0181	32987		2640	14559
200	0100	0386	33729		2681	14662
200	0150	0636	34490		2712	14783
200	0200	0631	34641		2725	14791

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1270	31477		2375	14955	0000	00000	4160
0010	1246	31466		2379	14948	0042	00002	4126
0020	1251	31468		2378	14951	0083	00008	4136
0030	1258	31917		2411	14961	0123	00019	3820
0050	0696	32866		2577	14769	0184	00042	2244
0075	0181	32987		2640	14559	0233	00072	1640
0100	0386	33729		2681	14662	0269	00104	1253
0125	0540	3421 E		2702	14737	0299	00138	1061
0150	0636	34490		2712	14783	0324	00174	0970
0175	0660 B	3469 H		2725	14799	0347	00212	0859
0200	0631	34641		2725	14791	0369	00254	0859

C-REF-NO 352	YR 1961	DEPTH 2286	WAVES 1 32X3	AIR T 10.6	VIS 98
CONS. NO 017	MONTH 11	MXSAMPD 09	WAVES 2 3229	WET B 06.4	STN 017
LAT 42-590N	DAY 03	NO.DPTH 15	WND-DIR 320	WW-CODE 03	
LON 60-010W	HR 00.4	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 151		W-TRNSP	BARO 1027.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
010	0000	159	33450		2460	15083
010	0010	1632	33638		2465	15100
010	0020	1689	33900		2472	15122
010	0030	1774	34282		2481	15154
010	0050	0759	33345		2606	14800
010	0075	0702	33868		2655	14789
010	0100	0746	34286		2681	14816
010	0150	0837	34736		2703	14865
004	0175	0832	34799		2709	14868
004	0262	0738	34898		2731	14847
004	0350	0667	34993		2748	14835
004	0437	0557	34943		2758	14805
004	0524	0501	34953		2766	14796
004	0700	0451	34976		2773	14805
004	0876	0416	34939		2774	14819

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1590	33450		2460	15083	0000	00000	3348
0010	1632	33638		2465	15100	0033	00002	3305
0020	1689	33900		2472	15122	0066	00007	3243
0030	1774	34282		2481	15154	0099	00015	3162
0050	0759	33345		2606	14800	0150	00035	1970
0075	0702	33868		2655	14789	0194	00062	1508
0100	0746	34286		2681	14815	0229	00093	1261
0125	0800 C	3457 B		2696	14844	0259	00128	1130
0150	0837	34736		2703	14865	0287	00167	1066
0175	0832	34799		2709	14868	0313	00210	1017
0200	0810 C	3484 B		2715	14864	0338	00258	0960
0225	0784 C	3487 C		2721	14858	0361	00309	0904
0250	0754 B	3489 B		2728	14851	0383	00363	0849
0300	0708 B	3495 B		2739	14842	0424	00476	0750
0400	0603 B	3497 C		2755	14817	0492	00719	0607
0500	0513	34947		2764	14797	0549	00981	0523
0600	0473 B	34966		2770	14798	0600	01264	0472
0700	0451	34976		2773	14805	0646	01574	0449
0800	0421 B	3496 B		2775	14809	0691	01921	0439

C-REF-NO 352 YR 1961 DEPTH 1801 WAVES 1 32X2 AIR T 10.1 VIS 98
 CONS. NO 018 MONTH 11 MXSAMPD 05 WAVES 2 3282 WET B 06.4 STN 018
 LAT 43-020N DAY 03 NO.DPTH 12 WND-DIR 320 WW-CODE 02
 LON 61-030W HR 05.4 W-COLOR WND-SPD 05 CLD-TPE 8
 MARSD SQ 151 W-TRNSP BARO 1029. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
054	0000	156	33249		2451	15071
054	0010	1542	33243		2455	15067
054	0020	1548	33245		2454	15071
054	0030	1618	33689		2472	15100
054	0050	0802	33413		2605	14818
054	0075	0794	34012		2653	14826
054	0100	0850	34584		2689	14859
054	0150	0864	34870		2709	14876
054	0200	0870	35045		2722	14889
054	0300	0632	34882		2744	14811
054	0400	0544	34911		2757	14793
054	0500	0510	34963		2766	14796

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1560	33249		2451	15071	0000	00000	3431
0010	1542	33243		2455	15067	0034	00002	3401
0020	1548	33245		2454	15071	0069	00007	3414
0030	1618	33689		2472	15100	0102	00016	3243
0050	0802	33413		2605	14818	0155	00036	1979
0075	0794	34012		2653	14826	0199	00063	1527
0100	0850	34584		2689	14859	0233	00093	1189
0125	0866 C	3481 I		2704	14872	0261	00126	1053
0150	0864	34870		2709	14876	0287	00162	1007
0175	0873 B	34975		2716	14885	0312	00203	0948
0200	0870	35045		2722	14889	0335	00248	0897
0225	0819 H	3503 I		2729	14874	0357	00296	0838
0250	0762 I	3499 I		2735	14856	0377	00346	0784
0300	0632	34882		2744	14811	0415	00450	0696
0400	0544	34911		2757	14793	0479	00678	0576
0500	0510	34963		2766	14796	0534	00929	0507

C-REF-NO 352 YR 1961 DEPTH 75 WAVES 1 04X2 AIR T 08.1 VIS 98
 CONS. NO 019 MONTH 11 MXSAMPD 01 WAVES 2 XX WET B 06.4 STN 019
 LAT 46-573N DAY 07 NO.DPTH 6 WND-DIR 320 WW-CODE 01
 LON 60-127W HR 10.5 W-COLOR WND-SPD 06 CLD-TPE 8
 MARSD SQ 151 W-TRNSP BARO 1020. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
105	0000	090	29546		2288	14797
105	0010	0872	29534		2291	14788
105	0020	0872	29548		2292	14789
105	0030	0852	29659		2304	14785
105	0050	0517	30425		2406	14664
105	0070	-0011	31806		2556	14455

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0900	29546		2288	14797	0000	00000	4988
0010	0872	29534		2291	14788	0050	00003	4959
0020	0872	29548		2292	14789	0100	00010	4950
0030	0852	29659		2304	14785	0149	00023	4840
0050	0517	30425		2406	14664	0236	00057	3864

C-REF-NO 352 YR 1961 DEPTH 327 WAVES 1 05X3 AIR T 08.1 VIS 98
 CONS. NO 020 MONTH 11 MXSAMPD 03 WAVES 2 XX WET B 07.0 STN 020
 LAT 47-078N DAY 07 NO.DPTH 10 WND-DIR 330 WW-CODE 01
 LON 60-002W HR 12.1 W-COLOR WND-SPD 06 CLD-TPE 8
 MARSD SQ 151 W-TRNSP BARO 1020. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
121	0000	089	31333		2429	14816
121	0010	0855	31314		2433	14804
121	0020	0820	31410		2445	14794
121	0030	0623	31742		2498	14722
121	0049	0118	32259		2586	14517
121	0074	0020	32518		2612	14480
121	0098	-0012	32706		2628	14472
121	0148	0179	33344		2668	14575
121	0197	0413	34133		2711	14695
121	0295	0478	34606		2741	14744

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0890	31333		2429	14816	0000	00000	3644
0010	0855	31314		2433	14804	0036	00002	3609
0020	0820	31410		2445	14794	0072	00007	3490
0030	0623	31742		2498	14722	0105	00016	2992
0050	0107 B	32275		2588	14512	0156	00036	2134
0075	0017	32526		2613	14479	0207	00068	1894
0100	-0008	32727		2630	14474	0253	00109	1728
0125	0067 F	3302 B		2650	14516	0294	00156	1543
0150	0189	3338 B		2670	14580	0330	00207	1351
0175	0313 D	3379 G		2693	14644	0362	00259	1143
0200	0375 I	3403 I		2706	14678	0389	00311	1025
0225	0426 I	3424 I		2718	14706	0413	00365	0920
0250	0460 I	3441 I		2728	14727	0436	00418	0832
0300	0477 B	3462 C		2742	14745	0474	00527	0701

C-REF-NO 352 YR 1961 DEPTH 466 WAVES 1 05X3 AIR T 08.1 VIS 98
 CONS. NO 021 MONTH 11 MXSAMPD 04 WAVES 2 XX WET B 06.5 STN 021
 LAT 47-163N DAY 07 NO.DPTH 12 WND-DIR 330 WW-CODE 01
 LON 59-578W HR 13.8 W-COLOR WND-SPD 06 CLD-TPE 8
 MARSD SQ 150 W-TRNSP BARO 1019. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
138	0000	086	31389		2438	14805
138	0010	0794	31425		2450	14782
138	0020	0779	31466		2456	14778
144	0030	0380	32033		2547	14625
144	0050	0108	32293		2589	14513
144	0075	0032	32604		2618	14487
138	0100	0099	32691		2621	14522
138	0145	0145	33244		2663	14558
138	0194	0384	34045		2707	14681
138	0291	0496	34636		2741	14752
138	0388	0472	34787		2756	14760
138	0437	0468	34823		2759	14767

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0860	31389		2438	14805	0000	00000	3559
0010	0794	31425		2450	14782	0035	00002	3442
0020	0779	31466		2456	14778	0070	00007	3393
0030	0380	32033		2547	14625	0099	00014	2519
0050	0108	32293		2589	14513	0146	00033	2120
0075	0032	32604		2618	14487	0196	00065	1842
0100	0099	32691		2621	14522	0242	00106	1812
0125	0120 E	3296 E		2641	14540	0285	00156	1623
0150	0168 C	3333 C		2668	14570	0323	00208	1373
0175	0287 F	3374 G		2692	14632	0355	00261	1156
0200	0400 B	3411 C		2710	14689	0382	00313	0991
0225	0453 F	3433 I		2722	14719	0405	00364	0883
0250	0486 G	3449 I		2731	14739	0427	00416	0800
0300	0496	3466 B		2743	14753	0464	00522	0692
0400	0485 D	3483 F		2758	14767	0528	00746	0565

C-REF-NO 352 YR 1961 DEPTH 472 WAVES 1 33X2 AIR T 08.1 VIS 98
 CONS. NO 022 MONTH 11 MXSAMPD 04 WAVES 2 XX WET B 06.5 STN 022
 LAT 47-278N DAY 07 NO.DPTH 12 WND-DIR 330 WW-CODE 02
 LON 59-332W HR 16.0 W-COLOR WND-SPD 04 CLD-TPE
 MARSD 5Q 150 W-TRNSP BARO 1019. CLD-AMT 7 HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	160	0000	088	31239		2423	14811
	160	0010	0853	31237		2427	14802
	160	0020	0836	31432		2445	14800
	160	0030	0777	31569		2464	14781
	160	0050	0028	32304		2594	14477
	160	0075	0000	32569		2617	14472
	160	0100	0002	32797		2635	14480
	160	0150	0220	33500		2678	14596
	160	0200	0488	34265		2713	14728
4	160	0300	0464	33427		2649	14724
	160	0400	0478	34667		2746	14762
1	160	0450	0470	34773		2755	14769

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0880	31239		2423	14811	0000	00000	3699
0010	0853	31237		2427	14802	0037	00002	3664
0020	0836	31432		2445	14800	0073	00007	3496
0030	0777	31569		2464	14781	0107	00016	3315
0050	0028	32304		2594	14477	0161	00037	2069
0075	0000	32569		2617	14471	0211	00068	1853
0100	0002	32797		2635	14480	0255	00108	1679
0125	0090 E	3312 D		2657	14528	0295	00153	1477
0150	0220	33500		2678	14596	0330	00202	1282
0175	0363 E	3393 I		2699	14667	0360	00252	1086
0200	0488	34265		2713	14728	0385	00301	0967
0225	0515 I	3411 I		2697	14741	0412	00359	1120
0250	0520 I	3391 I		2681	14745	0442	00433	1272
0300	0464	33427		2649	14723	0514	00638	1577
0400	0478	34667		2746	14762	0627	01023	0678

C-REF-NO 352	YR 1961	DEPTH 258	WAVES 1 33X1	AIR T 07.7	VIS 98
CONS. NO 023	MONTH 11	MXSAMPD 02	WAVES 2 0082	WET B 06.1	STN 023
LAT 47-346N	DAY 07	NO.DPTH 9	WND-DIR 330	WW-CODE 03	
LON 59-199W	HR 17.6	W-COLOR	WND-SPD 06	CLD-TPE 7	
MARSD SQ 150		W-TRNSP	BARO 1017.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
176	0000	087	31268		2427	14808
176	0010	0852	31441		2443	14805
176	0020	0730	31659		2477	14762
176	0030	0590	31853		2510	14710
176	0050	0243	32291		2580	14573
176	0075	0142	32396		2595	14534
176	0100	0020	32642		2622	14486
176	0150	0020	32874		2640	14497
176	0240	0444	34186		2711	14716

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0870	31268		2427	14808	0000	00000	3663
0010	0852	31441		2443	14805	0036	00002	3510
0020	0730	31659		2477	14762	0070	00007	3185
0030	0590	31853		2510	14710	0100	00015	2870
0050	0243	32291		2580	14573	0151	00035	2212
0075	0142	32396		2595	14534	0205	00069	2062
0100	0020	32642		2622	14486	0254	00112	1806
0125	→0011 C	3276 I		2632	14477	0298	00163	1703
0150	0020	32874		2640	14497	0340	00222	1628
0175	0044 I	3330 I		2673	14518	0377	00284	1320
0200	0155 H	3361 I		2691	14577	0408	00343	1152
0225	0319 D	3396 I		2706	14657	0436	00403	1025

C-REF-NO 352	YR 1961	DEPTH 516	WAVES 1 06X2	AIR T 07.6	VIS 98
CONS. NO 024	MONTH 11	MXSAMPD 05	WAVES 2 XX	WET B 06.4	STN 024
LAT 47-348N	DAY 07	NO.DPTH 12	WND-DIR 060	WW-CODE 03	
LON 60-015W	HR 20.3	W-COLOR	WND-SPD 07	CLD-TPE 7	
MARSD SQ 151		W-TRNSP	BARO 1015.	CLD-AMT 8	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	203	0000	084	31071		2416	14794
	203	0010	0873	31320		2430	14811
	203	0020	0895	31502		2441	14823
	203	0030	0898	31537		2444	14827
	203	0049	0267	32114		2564	14581
	203	0073	0104	32290		2589	14515
	203	0097	0019	32390		2602	14481
	203	0146	0008	32745		2631	14489
	203	0195	0212	33459		2675	14599
	203	0293	0476	34476		2731	14741
	203	0391	0473	34766		2754	14760
1	203	0489	0465	34821		2759	14774

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0840	31071		2416	14794	0000	00000	3768
0010	0873	31320		2430	14811	0037	00002	3630
0020	0895	31502		2441	14823	0073	00007	3528
0030	0898	31537		2444	14827	0109	00016	3508
0050	0252 B	3213 B		2566	14575	0167	00039	2342
0075	0094	32299		2590	14511	0223	00075	2107
0100	0012	32404		2603	14479	0275	00121	1984
0125	-0014	3256 B		2617	14473	0323	00176	1853
0150	0022 B	3280 B		2634	14497	0368	00239	1686
0175	0119 E	3315 G		2657	14550	0407	00305	1472
0200	0231	33526		2679	14609	0442	00371	1273
0225	0317 B	3384 B		2697	14655	0472	00437	1114
0250	0388 B	3411 C		2711	14693	0499	00501	0983
0300	0480 B	3451 B		2733	14745	0543	00625	0784
0400	0518 I	3487 I		2757	14781	0612	00867	0577

C-REF-NO 352	YR 1961	DEPTH 463	WAVES 1 06X4	AIR T 06.1	VIS 96
CONS. NO 025	MONTH 11	MXSAMPD 04	WAVES 2 XX	WET B 06.1	STN 025
LAT 48-150N	DAY 08	NO.DPTH 12	WND-DIR 060	WW-CODE 62	
LON 60-250W	HR 00.5	W-COLOR	WND-SPD 12	CLD-TPE 7	
MARSD SQ 151		W-TRNSP.	BARO 1013.	CLD-AMT 8	HW

O B S E R V E D

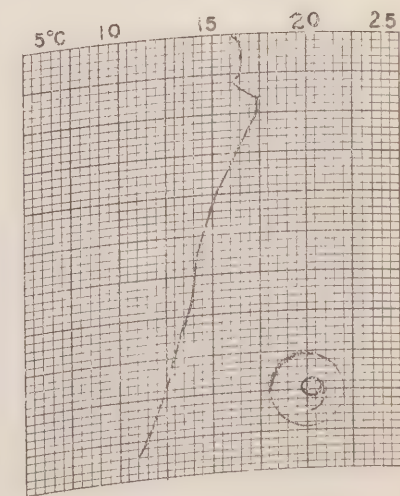
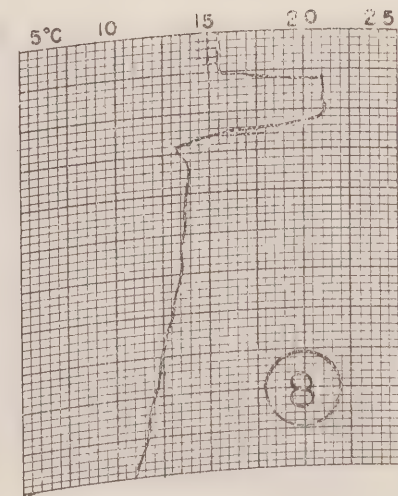
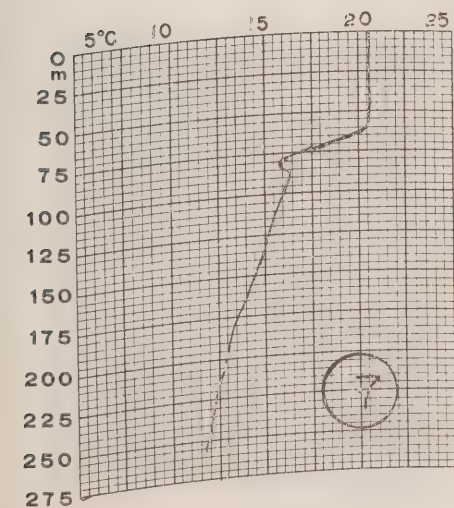
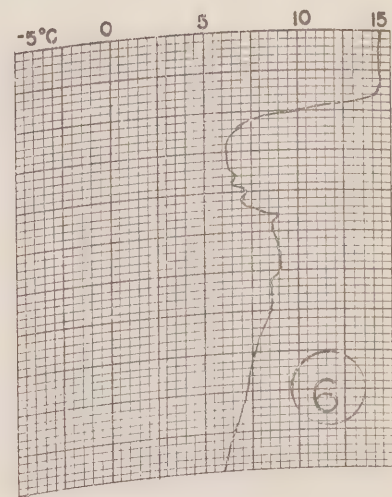
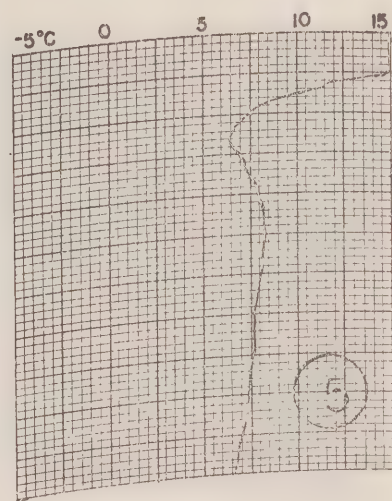
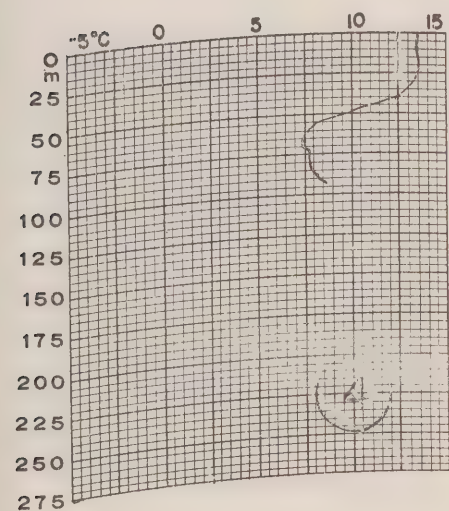
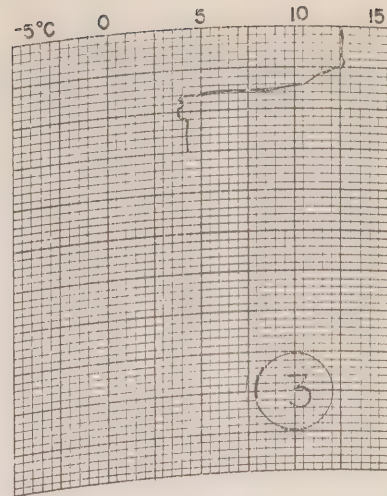
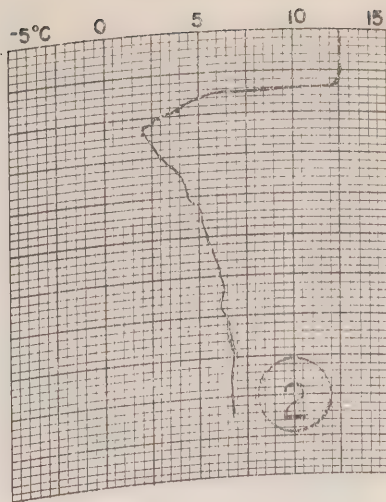
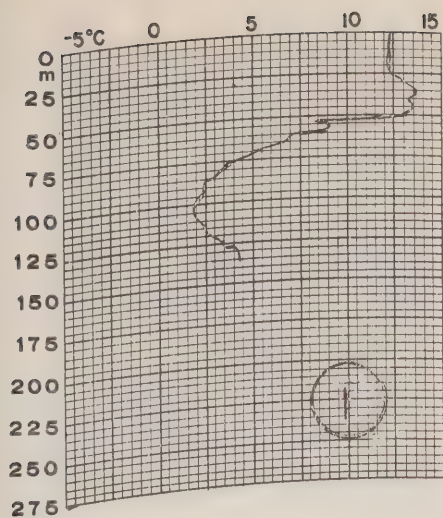
	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	005	0000	082	31118		2422	14786
	005	0010	0803	31112		2424	14781
	005	0020	0802	31109		2424	14783
	005	0030	0307	31684		2526	14589
	005	0050	-0018	32151		2584	14453
	005	0075	-0002	32487		2610	14469
	005	0100	-0052	32691		2629	14453
	005	0150	0166	33312		2667	14569
	005	0200	0386	34017		2704	14682
	005	0300	0480	34620		2742	14746
4	005	0400	0468	34819		2759	14760
1	005	0450	0479	34811		2757	14773

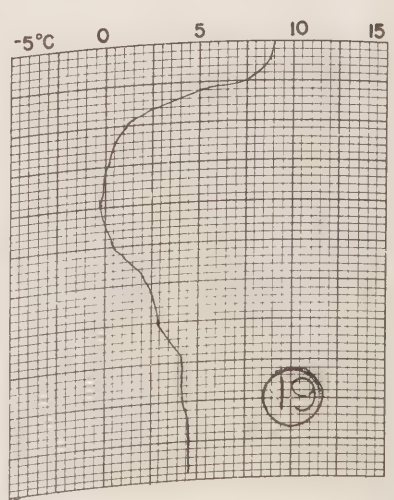
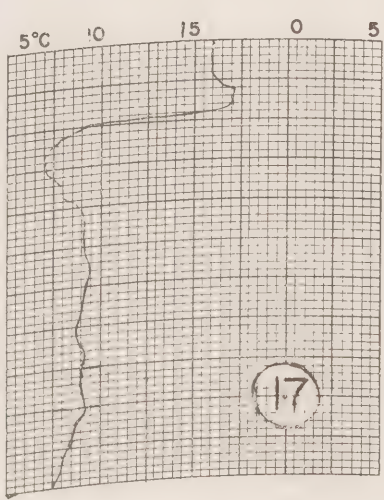
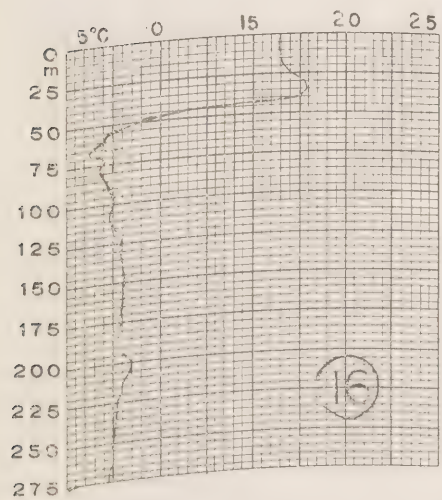
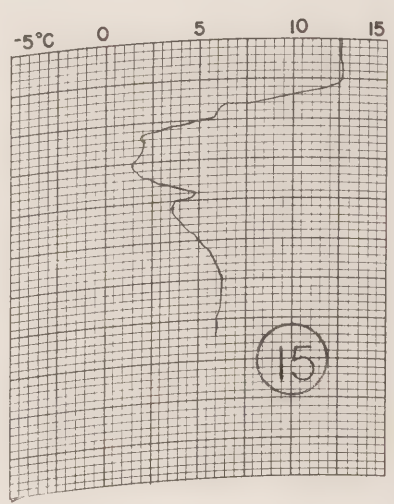
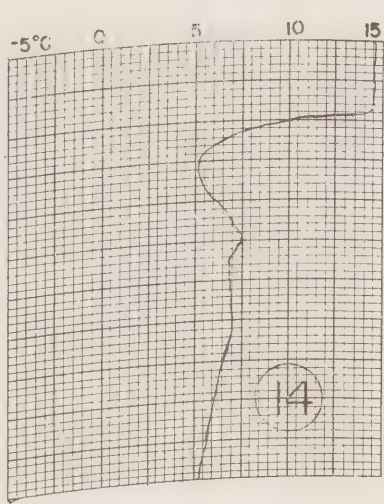
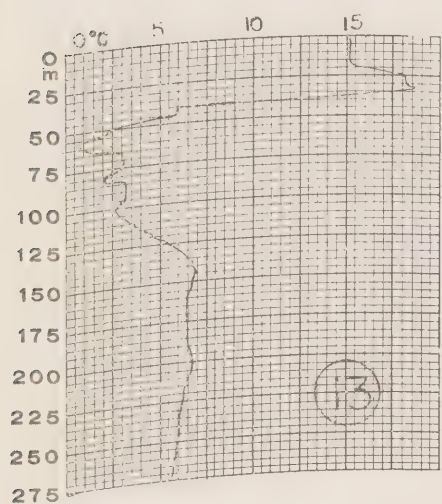
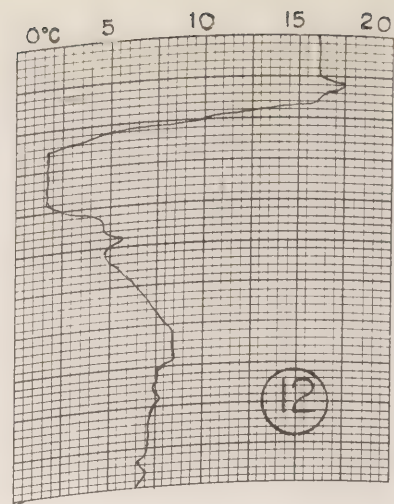
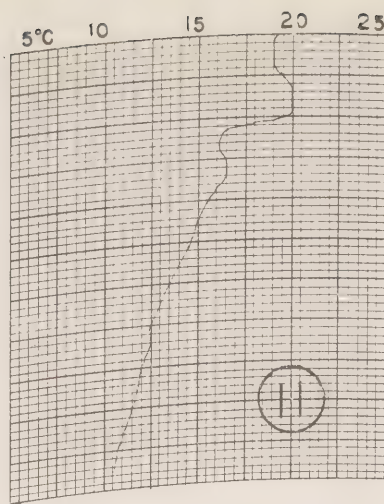
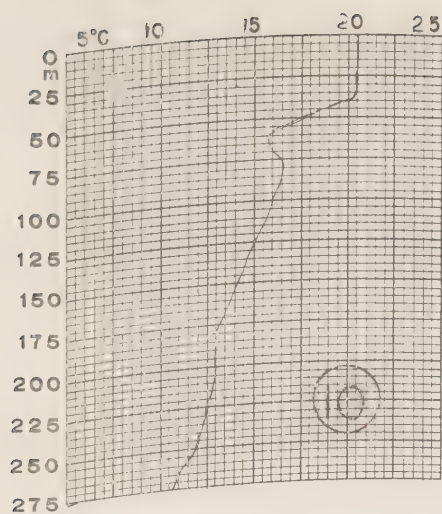
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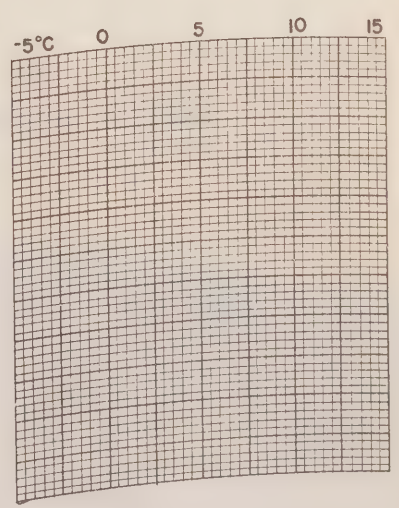
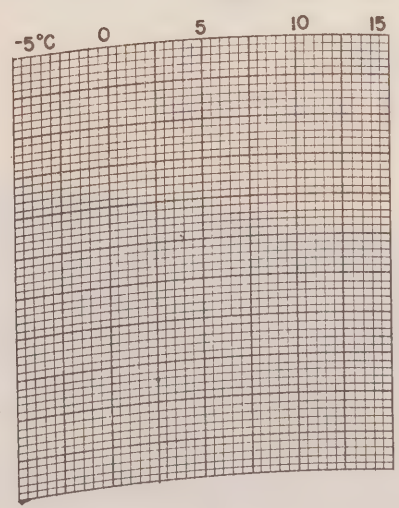
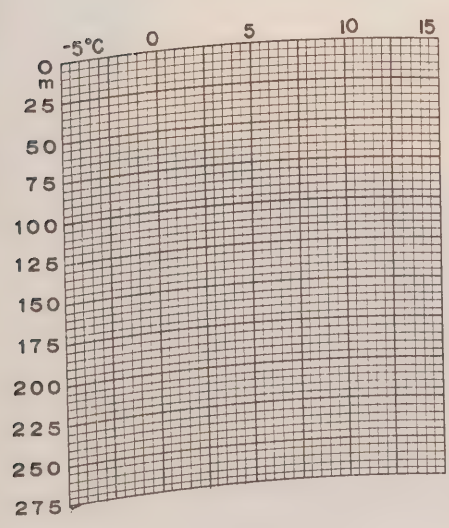
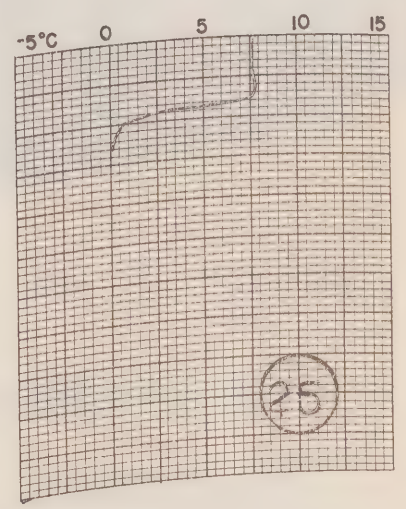
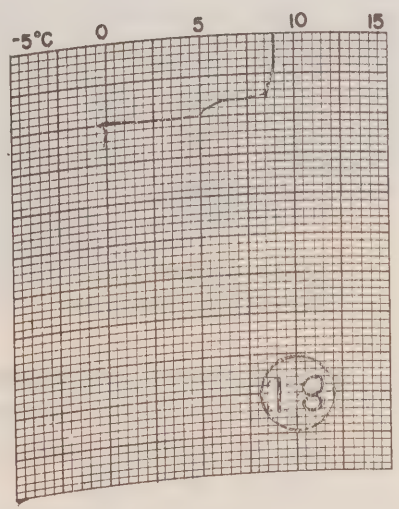
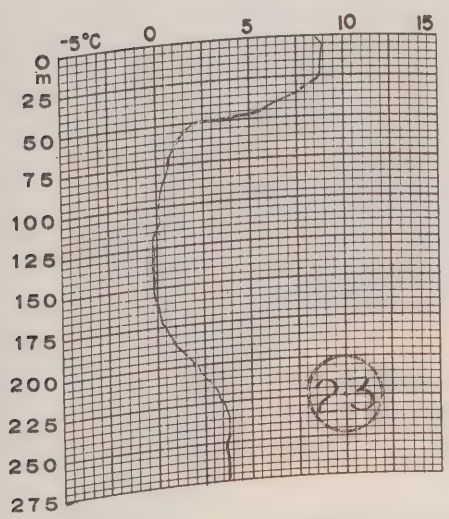
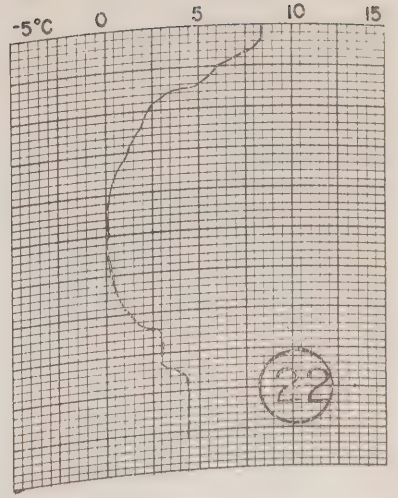
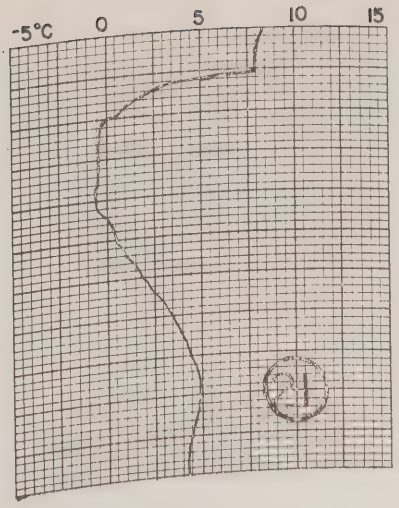
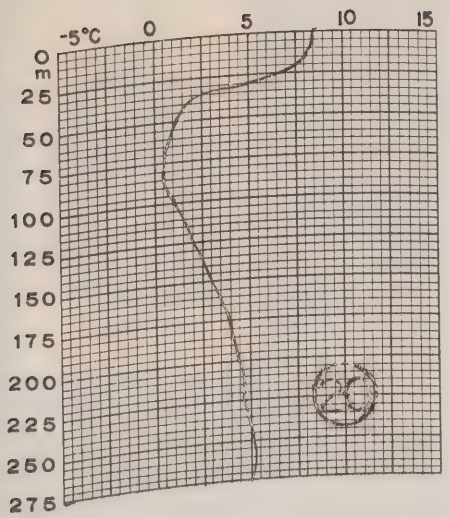
DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0820	31118		2422	14786	0000	00000	3705
0010	0803	31112		2424	14781	0037	00002	3688
0020	0802	31109		2424	14783	0074	00008	3690
0030	0307	31684		2526	14589	0106	00016	2720
0050	-0018	32151		2584	14453	0156	00035	2166
0075	-0002	32487		2610	14469	0207	00068	1915
0100	-0052	32691		2629	14453	0253	00109	1737
0125	0030 I	3298 C		2648	14499	0294	00156	1554
0150	0166	33312		2667	14569	0331	00208	1384
0175	0283 C	3368 E		2687	14630	0364	00262	1203
0200	0386	34017		2704	14682	0392	00316	1044
0225	0436 F	3424 G		2716	14710	0417	00371	0934
0250	0468 G	3441 I		2727	14730	0440	00425	0841
0300	0480	34620		2742	14746	0479	00534	0704
0400	0468	34819		2759	14760	0542	00759	0553

SECTION IV

Bathythermograph data







REFERENCES

- Knudsen, K., 1901 Hydrographischen Tabellen.. Copenhagen, 63 pp.
- Ekman, V.W., 1908 Die Zusammendrückbarkeit des Meerwassers
nebst einigen Werten für Wasser and Quecksilber.
Publ. Circ. Cons. Explor. Mer., No. 43, 47 pp.
- Strickland, J.D.H. MS, 1958. Standard methods of seawater
analyses. Volume II. Fish. Res. Bd. Canada,
MS Rept. Oceanogr. and Limnol., No. 19, 78 pp.
- Strickland, J.D.H and Parsons, T.R., 1960. A manual of seawater analysis.
Bull. Fish. Res. Bd. Canada, No. 125, 185 pp.
- Wilson, W.D., 1960 Equation for the speed of sound in seawater.
Journ. Acoust. Soc., America 32 (10); p. 1357.
- Cox, R.A., 1961 Handbook for the Thermostat Salinity Meter.
Unpublished MS National Institute of Oceano-
graphy Report H. 12.
- Rattray, M. Jr., 1962 Interpolation errors and oceanographic sampling.
Deep Sea Research. vol. 9, pp 25 to 37.
- Goodacre, A.K., 1964 A ship-borne gravimeter testing range near
Halifax, N.S. (to be presented at the 45th
annual meeting of the A.G.U., April, 1964.)
- Sauer, C.D., and Fofonoff, N.P. Oceans II, a computer program for
processing oceanographic data (Publication
pending).



CANADA

DATA RECORD

GULF OF ST. LAWRENCE

No. 8

1964 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1964

ROGER DUHAMEL, F. R. S. C.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1964

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CANADIAN OCEANOGRAPHIC DATA CENTRE

615 Booth Street, Ottawa 4

Data Record

GULF OF ST. LAWRENCE

(C.O.D.C. Reference C.R.N. 345)

No. 8

1964 Data Record Series

Programmed by the Canadian Committee on Oceanography

FISHERIES RESEARCH BOARD OF CANADA
and
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

Gulf of St. Lawrence

Ship: C.S.S. "Baffin"

Local cruise designation: Baffin - 2

Cruise period: February 5 - February 20, 1962

Observers: Mr. J.A. Coombs

Dr. R.W. Trites

Mr. J.Y. Dugas

Dr. D.H. Loring

Mr. D.L. Peer

ATLANTIC OCEANOGRAPHIC GROUP
and
MARINE SCIENCES BRANCH

Bedford Institute of Oceanography, Dartmouth, N.S.

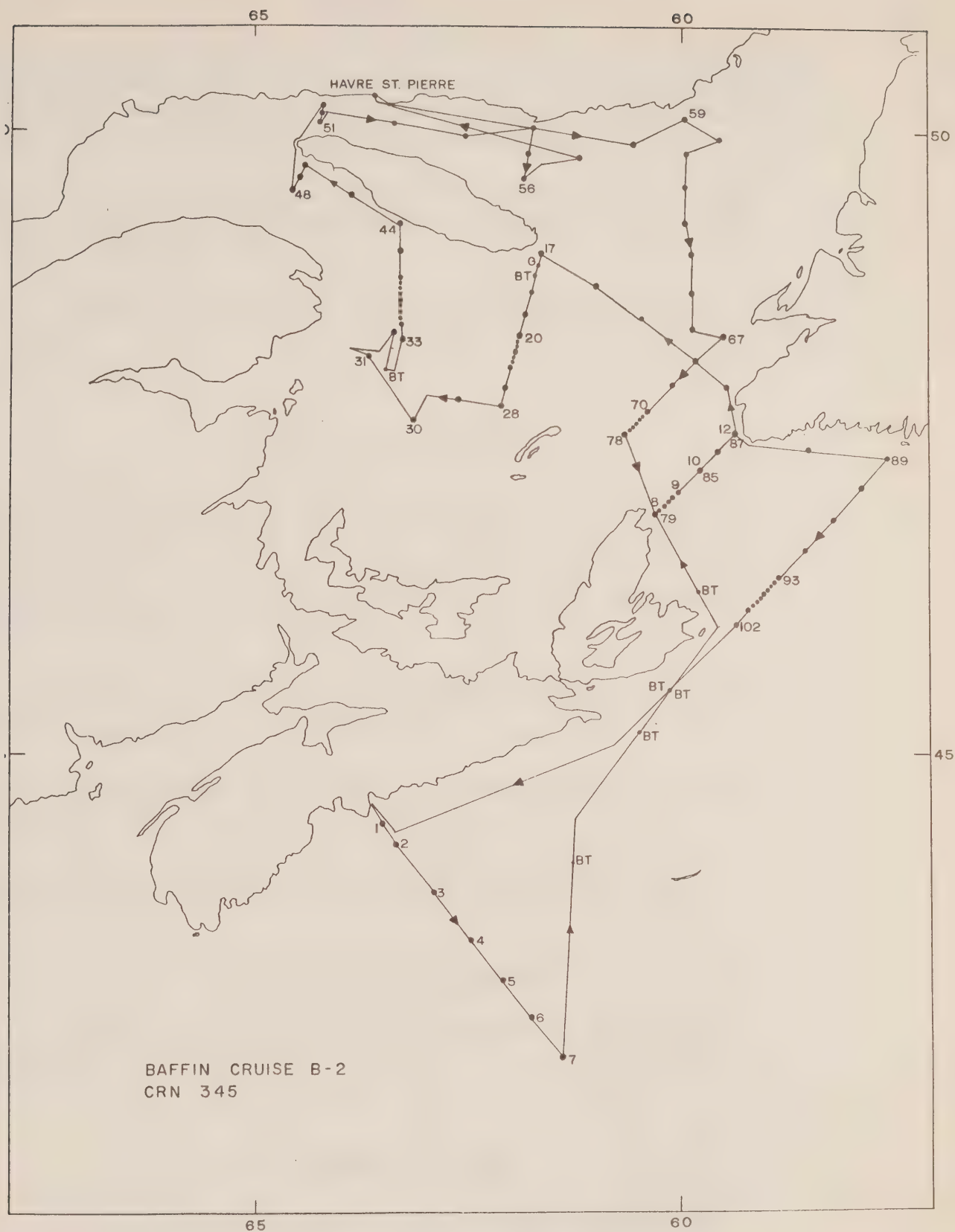
SECTION I

Description of data collection procedures



"BAFFIN"

Canadian Hydrographic Service



TRACK CHART

INTRODUCTION

The cruise was a joint undertaking between the Marine Sciences Branch of the Department of Mines and Technical Surveys and the Atlantic Oceanographic Group of the Fisheries Research Board. The purpose was to study winter oceanographic and ice conditions in the Gulf of St. Lawrence.

Bottom grab samples and cores were also taken for studies of the chemistry of the mud-water interface, for studies of benthic fauna, and for geological studies in the Gulf.

The Halifax oceanographic section which is generally occupied seasonally, for assessment of Scotian Shelf water conditions, was run on this cruise.

OBSERVATION PROCEDURES

1. 77 Oceanographic stations were occupied employing Nansen water bottles and Richter and Wiese, and Yoshino reversing thermometers. Observations were made at or near standard depths to depths of 600m or bottom in one or two casts depending on the depth of water. The deep cast was generally done first when two casts were made. Bottles were placed at depths in addition to the standard depths as required by the survey.
2. Surface water samples for surface temperature and salinity were obtained with a metal bucket. Surface temperature was measured with a mercury-in-glass thermometer graduated in 0.1°C intervals.
3. Dissolved oxygen determinations were made at most Gulf stations using a modified Winkler technique (FRB bulletin 125).
4. Weather observations were made at each oceanographic and bathythermograph station by ships' officers and scientific personnel.

LABORATORY PROCEDURES

Salinities for samples collected at depths greater than 150-200m were analysed on NIO conductivity bridge No. 3. For shallower depths the salinities were determined by titration.

BATHYTHERMOGRAPH DATA

B.T. observations to a maximum depth of 275m were made at each station after the serial bottom casts. B.T. stations were run at other locations as required by the survey.

Bathythermograph records were processed by the bathythermograph centre of the Bedford Institute of Oceanography.

PERSONNELAt Sea:

J.A. Coombs	Officer-in-Charge	DM & TS
J.Y.A. Dugas		DM & TS
J.G. Mackay		DM & TS
H.W. MacPhail		DM & TS
B. Kelly		DM & TS
Dr. R.W. Trites		AOG
Dr. D.H. Loring		AOG
Dr. R.F. Platford		AOG
D.L. Peer		AOG

Data Analyses:

Compilation of Data:	J.A. Coombs
Salinity Determinations:	H. MacPhail, K. Watson.

SECTION II

Description of the machine-generated data record

15 INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation cycle.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. If interpolations are carried out, additional derived quantities are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an **"estimate of precision"** for each observed variable selected for interpolation at the standard oceanographic depth. The precision depends on the instrument or technique used to determine the variable.

A standard precision stated as a **standard deviation (σ)** can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under **"GENERAL INFORMATION"** of section II of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an **"interpolation error estimate"** derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T , S , O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the **"measurement error estimate"** comprises the **"combined measurement and interpolation error estimate"**. It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

MASTER															
1 IDENT. CODE		2 LATITUDE (N=+)		3 LONGITUDE (W=+)		5 DATE		6 TIME		7 DEPTH		9 NO. DEPTHS OBS'D.		VESSEL	
COUNTRY	INST.	DEG.°	MIN.	1/10	DEG.°	MIN.	1/10	YEAR	MONTH	DAY	HOURS G.M.T.	1/10	TO BOTTOM	ENTERED BY	CHECKED BY
1	8														
2															
3															
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OBSERVED CARD																					
6 TIME		7 DEPTH OF SAMPLE		8 TEMPERATURE		9 SALINITY		10 OXYGEN		13 PO ₄ -P		14 TOTAL-P		15 NO ₂ -N		16 NO ₃ -N		17 SIO ₂ -SI		18 P.H.	
HOURS	G.M.T.	1/10		↑	e	↑	d/e	↑	e	↑		↑		↑		↑		↑			
1																					
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$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

- σ_i = Standard deviation of the combined error estimates at standard oceanographic depth,
 ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $1/3 (V_{i_1} - V_{i_2})$
 γ = Interpolation polynomial coefficient.
 Z_j = Observed depth.
 Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(10) DEPTH	(15) WAVES 1	(20) AIR T	(25) VIS
(2) CONS. NO	(7) MONTH	(11) MXSAMPD	(16) WAVES 2	(21) WET B	(26) STN
(3) LAT	(8) DAY	(12) NO. DPTH	(17) WND-DIR	(22) WW-CODE	
(4) LON	(9) HR	(13) W-COLOR	(18) WND-FCE	(23) CLD-TPE	
(5) MARSD SQ		(14) W-TRNSP	(19) BARO	(24) CLD-AMT	(27) HW

(1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the C.R.N. was a number designated by C.O.D.C.

(2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

(3) LATITUDE:

Indicate the position of the platform at the time of observation

(4) LONGITUDE:

(5) MARSDEN SQUARE: Designates the geographic area code (see Marsden square chart) in which the observation is located.

(6) YEAR:

(7) MONTH:

(8) DAY:

(9) HOUR:

The time (Greenwich Mean Time) at which the Master-card data were recorded.

It is reported to tenths of hours (Table 1).

If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

(10) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section II. Charted depths are denoted by the sounding value, preceded by the letter "C".

(11) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.

- (12) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch cards).
- (13) WATER COLOUR: A code based on the percentage of yellow (see table 2 and NOTE under FIELD "14" below).
- (14) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section II of the data record will state which method was used.
- (15) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (16) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant other-than wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (17) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing. Wind direction 990 means:—wind variable or direction unknown.
- (18) WIND FORCE
(WND-FCE): Beaufort Notation (See Table 6).
- WIND SPEED
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section II.
- (19) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section II of the data record will state the type of instrument used.
- (20) AIR TEMPERATURE: In degrees Celsius.
- (21) WET BULB: In degrees Celsius.
- (22) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (23) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (24) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (25) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (26) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (27) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO_4	(9) -P-	(10) NO_2	(11) NO_3	(12) SiO_3
					(13) pH.

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the moment the oceanographic bottle reversed.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01°C . Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of this section.

An alphabetical character following the Temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 \text{ C1}\%$, reported in:
 a. 1/100 parts per 1000, or
 b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3)

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places.

An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

(8) PO ₄	Phosphate – Phosphorus reported to hundredths of microgram-atoms per litre.
(9) -P-	Total Phosphorus reported to hundredths of microgram-atoms per litre.
(10) NO ₂	Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included –
(11) NO ₃	Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
(12) SiO ₃	Silicate-Silicon reported in whole microgram-atoms per litre.
(13) pH	The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value smaller the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY: **A.** The reported salinity values are observed to three decimal places.
 (i) the interpolation error estimate is less than twice the standard deviation of measurement
 —the interpolated value is reported to three decimal places (e.g., 30.139).
 (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 —the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23C).
B. The reported salinity values are observed to two decimal places and followed by the measurement error estimate.
 —the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND
VELOCITY: Computed from temperature and salinity values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^P \delta dp$$

ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2,345 dyn. metres).

(8) POTENTIAL
ENERGY
ANOMALY:

The Potential energy anomaly χ as defined by:

$$\chi = 1/g \int_0^P p \delta dp = \int_0^Z \rho p \delta dz$$

χ is expressed in units of 10^5 ergs/cm² and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC
VOLUME
ANOMALY:

The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

SPECIAL CHARACTERS

† (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

* (Asterisk): this character may occur in the interpolated portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one observed depth interval. The third, and all consequent levels within that interval are preceded by the asterisk to indicate that more than two machine interpolations were carried out, utilizing the same set of interpolation parabolas.

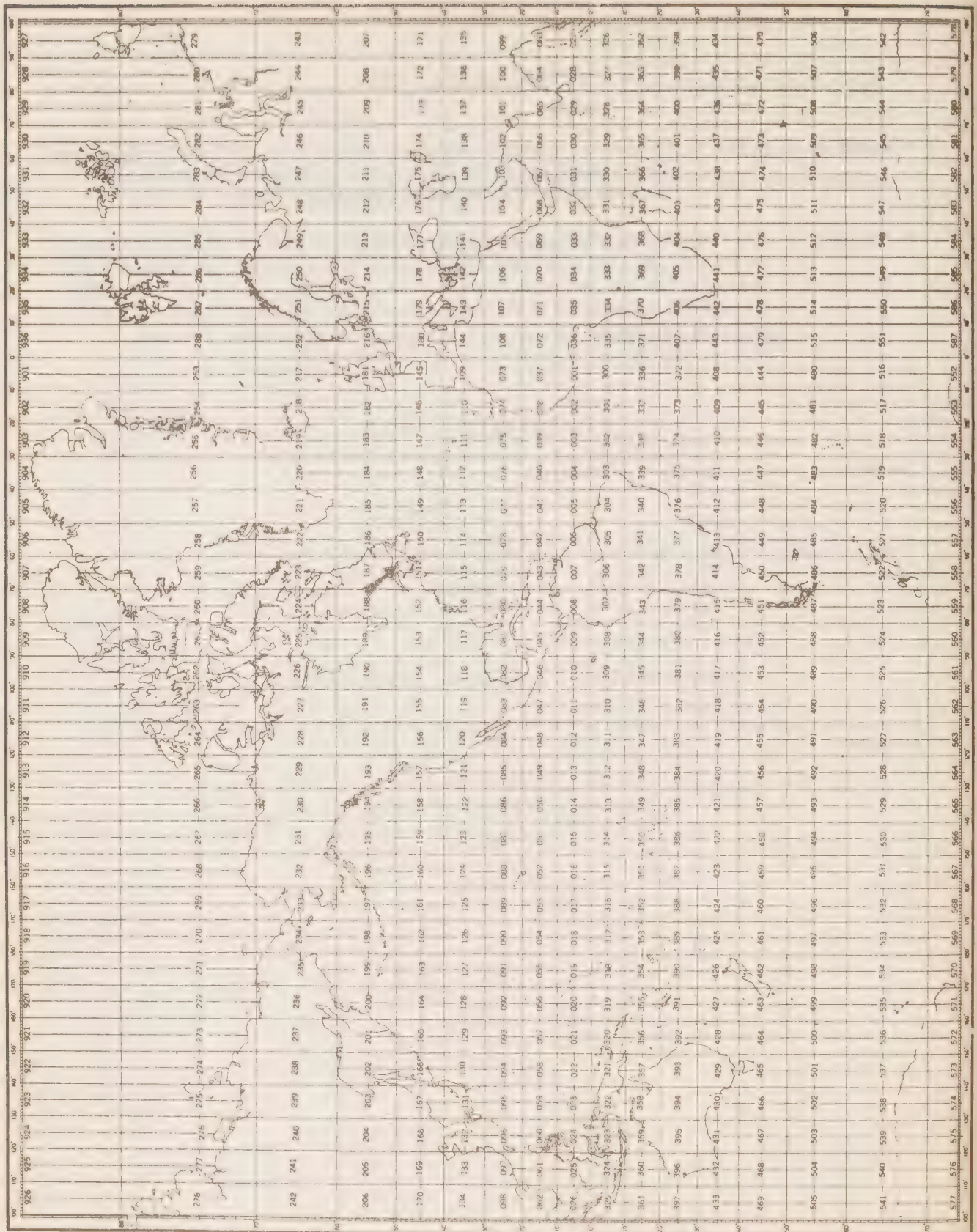
DOUBTFUL DATA CODES

The doubtful data are reported as follows:

<u>Code</u>	<u>Doubtful Data</u>
1	depth
2	temperature
3	salinity
4	any combination of 1, 2, and 3,
5	oxygen

NOTE: Codes 1 to 4 inclusive take precedence over code 5

Location of the doubtful data code is in the "Observed Data" portion, between the "DEPTH" and "TEMP" columns.



MARS DEN SQUARE CHART

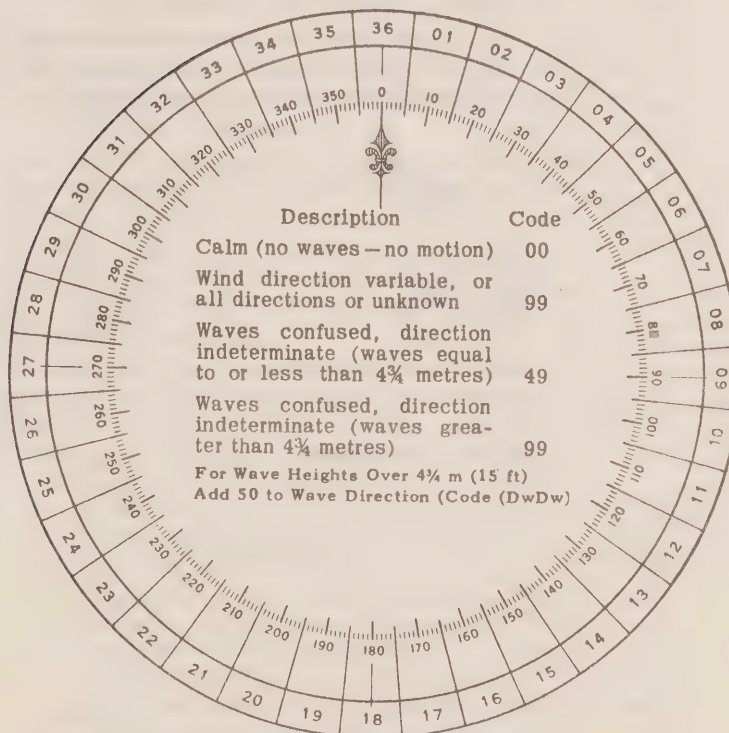
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (Pw)

(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (Hw)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m ($2\frac{1}{2}$ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m ($13\frac{1}{2}$ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code			Code
0	Less than ¼ m (1 ft)	Add 50 to Dw Dw	0 5 m (16 ft)
1	½ m (1½ ft)		1 5½ m (17½ ft)
2	1 m (3 ft)		2 6 m (19 ft)
3	1½ m (5 ft)		3 6½ m (21 ft)
4	2 m (6½ ft)		4 7 m (22½ ft)
5	2½ m (8 ft)		5 7½ m (24 ft)
6	3 m (9½ ft)		6 8 m (25½ ft)
7	3½ m (11 ft)		7 8½ m (27 ft)
8	4 m (13 ft)		8 9 m (29 ft)
9	4½ m (14 ft)		9 9½ m (30½ ft) or more
x	Height not determined		

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure		ww	
No meteors except photometeors	{	00	Cloud development not observed or not observable
		01	Clouds generally dissolving or becoming less developed
		02	State of sky on the whole unchanged
		03	Clouds generally forming or developing
Haze, dust, sand or smoke	{	04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes
		05	Haze
		06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation
		07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen
		08	Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm
		09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour
		10	Mist
		11	{ Patches of } shallow fog or ice fog at the station, whether on land or sea, not
		12	{ More of less } deeper than about 2 metres on continuous } land or 10 metres at sea
		13	Lightning visible, no thunder heard
	{	14	Precipitation within sight, not reaching the ground or the surface of the sea
		15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station
		16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station
		17	Thunderstorm, but no precepitation at the time of observation
		18	Squalls } at or within sight of the station during the preceding hour
		19	Funnel clouds } or at the time of observation
ww = 20 - 29			
Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation			
20		Drizzle (not freezing) or snow grains	
21		Rain (not freezing)	
22		Snow	
23		Rain and snow or ice pellets, type (a)	
24		Freezing drizzle or freezing rain	
25		Shower (s) of rain	
26		Shower (s) of snow, or of rain and snow	
27		Shower (s) of hail, or of rain and hail	
28		Fog or ice fog	
29		Thunderstorm (with or without precipitation)	
ww = 30 - 39			
Duststorm, sandstorm, drifting or blowing snow			
30		{ Slight or moderate dust-storm or sand-storm	
31			
32			
33		{ Severe dust-storm or sand-storm	
34			
35			
36		Slight or moderate blowing snow	
37		Heavy drifting snow	
38		Slight or moderate blowing snow	
39		Heavy blowing snow	
ww = 40 - 49			
Fog or ice fog at the time of observation			
40		Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
41		Fog or ice fog in patches	
42		Fog or ice fog, sky visible	
43		Fog or ice fog, sky invisible	
44		Fog or ice fog, sky visible	
45		Fog or ice fog, sky invisible	
46		Fog or ice fog, sky visible	
47		Fog or ice fog, sky invisible	
48		Fog, depositing rime, sky visible	
49		Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle

- | | | | |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent | { | slight at time of observation |
| 51 | Drizzle, not freezing, continuous | | |
| 52 | Drizzle, not freezing, intermittent | { | moderate at time of observation |
| 53 | Drizzle, not freezing, continuous | | |
| 54 | Drizzle, not freezing, intermittent | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous | | |
| 56 | Drizzle, freezing, slight | | |
| 57 | Drizzle, freezing, moderate or heavy (dense) | | |
| 58 | Drizzle and rain, slight | | |
| 59 | Drizzle and rain, moderate or heavy | | |

ww = 60 - 69 Rain

- | | | | |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent | { | slight at time of observation |
| 61 | Rain, not freezing, continuous | | |
| 62 | Rain, not freezing, intermittent | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous | | |
| 64 | Rain, not freezing, intermittent | { | heavy at time of observation |
| 65 | Rain, not freezing, continuous | | |
| 66 | Rain, freezing, slight | | |
| 67 | Rain, freezing, moderate or heavy | | |
| 68 | Rain or drizzle and snow, slight | | |
| 69 | Rain or drizzle and snow, moderate or heavy | | |

70 - 79 Solid precipitation not in showers

- | | | | |
|----|---|---|---------------------------------|
| ww | | | |
| 70 | Intermittent fall of snow flakes | { | slight at time of observation |
| 71 | Continuous fall of snow flakes | | |
| 72 | Intermittent fall of snow flakes | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes | | |
| 74 | Intermittent fall of snow flakes | { | heavy at time of observation |
| 75 | Continuous fall of snow flakes | | |
| 76 | Ice prisms (with or without fog) | | |
| 77 | Snow grains (with or without fog) | | |
| 78 | Isolated starlike snow crystals (with or without fog) | | |
| 79 | Ice pellets, type (a) | | |

ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- | | | | |
|----|--|---|---|
| 80 | Rain shower(s), slight | | |
| 81 | Rain shower(s), moderate or heavy | | |
| 82 | Rain shower(s), violent | | |
| 83 | Shower(s) of rain and snow mixed, slight | | |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy | | |
| 85 | Snow shower(s), slight | | |
| 86 | Snow shower(s), moderate or heavy | | |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain | { | - slight |
| 88 | or rain and snow mixed | | |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder | { | - moderate or heavy |
| 90 | | | |
| 91 | Slight rain at time of observation | { | thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy rain at time of observation | | |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation | { | thunderstorm at time of observation |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation | | |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation | | |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation | { | |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation | | |
| 99 | Thunderstorm, heavy, with hail at time of observation | | |

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Ci	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
X	Cloud not visible owing to darkness, fog, dust storm, sand storm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
90	Less than 50 metres (less than 55 yards)
91	50-200 metres (approx. 55-220 yards)
92	200-500 metres (approx. 220-550 yards)
93	500-1,000 metres (approx. 550 yards- $\frac{1}{2}$ n.m.)
94	1-2 km (approx. $\frac{3}{4}$ -1 n.m.)
95	2-4 km (approx. 1-2 n.m.)
96	4-10 km (approx. 2-6 n.m.)
97	10-20 km (approx. 6-12 n.m.)
98	20-50 km (approx. 12-30 n.m.)
99	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

GENERAL INFORMATION

<u>Institute:</u>	Bedford Institute of Oceanography
<u>Observation platform:</u>	C.S.S. "Baffin"
<u>Vessel's cruising speeds:</u>	15 knots
<u>Total number of stations occupied:</u>	102
<u>Anemometer height above sea level:</u>	22 metres
<u>Barometer readings</u>	were obtained using an Aneroid Barometer and were corrected prior to recording.
<u>Air temperature</u>	was observed from a Sling Psychrometer
<u>Wet bulb temperature</u>	was observed from a Sling Psychrometer
<u>Surface Sea water temperature</u>	was obtained from a bucket sample using a deck thermometer

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature:	0.02
Salinity:	0.003
Oxygen:	not available.

SECTION III

Serial oceanographic data

C-REF-NO 345 YR 1962 DEPTH 55 WAVES 1 18X3 AIR T 04.7 VIS 93
 CONS. NO 001 MONTH 2 MXSAMPD 00 WAVES 2 1442 WET B 04.7 STN 001
 LAT 44-267N DAY 05 NO.DPTH 5 WND-DIR 190 WW-CODE 95
 LON 63-289W HR 19.9 W-COLOR WND-SPD 13 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1009. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
199	0000	0120	31360		2513	14497					
199	0010	0116	31360		2514	14497					
199	0020	0106	31360		2514	14494					
199	0030	0106	31400		2518	14496					
199	0050	0106	31400		2518	14500					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0120	31360		2513	14497	0000	00000	2838
0010	0116	31360		2514	14497	0029	00001	2836
0020	0106	31360		2514	14494	0057	00006	2830
0030	0106	31400		2518	14496	0085	00013	2799
0050	0106	31400		2518	14500	0142	00036	2799

C-REF-NO 345	YR 1962	DEPTH 148	WAVES 1 18X3	AIR T 04.3	VIS 93
CONS. NO 002	MONTH 2	MXSAMPD 01	WAVES 2 1442	WET B 03.9	STN 002
LAT 44-160N	DAY 06	NO.DPTH 7	WND-DIR 240	WW-CODE 95	
LON 63-194W	HR 01.8	W-COLOR	WND-SPD 10	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1008.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
018	0000	0090	31040		2490	14479					
018	0010	0078	31040		2490	14475					
018	0019	0076	31040		2490	14476					
018	0029	0078	31060		2492	14479					
018	0048	0081	31060		2492	14483					
018	0072	0137	31400		2516	14517					
018	0145	0358	33080		2632	14649					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0090	31040		2490	14479	0000	00000	3066
0010	0078	31040		2490	14475	0031	00002	3060
0020	0076	31042		2490	14476	0062	00006	3057
0030	0078	31058		2492	14479	0092	00014	3045
0050	0084	3108 B		2493	14485	0153	00039	3032
0075	0129 E	3136 I		2513	14513	0227	00086	2840
0100	0189 E	3180 I		2544	14551	0295	00146	2545
0125	0274 C	3243 I		2588	14600	0354	00214	2129
0150	0381	3326 D		2645	14662	0401	00279	1604

C-REF-NO 345 YR 1962 DEPTH 256 WAVES 1 14X2 AIR T 06.1 VIS 94
 CONS. NO 003 MONTH 2 MXSAMPD 02 WAVES 2 1442 WET B 05.8 STN 003
 LAT 43-525N DAY 06 NO.DPTH 11 WND-DIR 140 WW-CODE 80
 LON 62-530W HR 05.5 W-COLOR WND-SPD 13 CLD-TPE 7
 MARSD SQ 151 W-TRNSP BARO 1005. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
055	0000	2 0190	31420		2514	14529					
055	0009	0159	31460		2519	14517					
055	0018	0154	31460		2519	14517					
055	0028	0201	31670		2533	14542					
055	0046	0236	31850		2545	14563					
055	0069	0401	32560		2587	14647					
055	0092	0612	33800		2661	14755					
055	0138	0730	34430		2695	14817					
055	0184	0759	34648		2708	14839					
055	0229	0741	34724		2716	14840					
055	0243	0744	34728		2716	14844					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0190	31420		2514	14529	0000	00000	2835
0010	0157	3146 B		2519	14517	0028	00001	2786
0020	0162	3150 C		2522	14521	0056	00006	2759
0030	0204 B	3169 C		2534	14544	0083	00013	2641
0050	0258	31935		2550	14574	0135	00034	2493
0075	0459 C	3289 I		2607	14677	0191	00069	1956
0100	0650 D	3401 I		2673	14774	0232	00105	1337
0125	0722 E	3440 I		2694	14812	0264	00141	1148
0150	0744	3451 C		2699	14826	0292	00181	1097
0175	0759	3463 C		2706	14837	0319	00225	1038
0200	0753 B	34688		2712	14840	0344	00274	0988
0225	0743	34722		2716	14840	0369	00328	0953

C-REF-NO 345	YR 1962	DEPTH 83	WAVES 1 15X3	AIR T 07.7	VIS 93
CONS. NO 004	MONTH 2	MXSAMPD 01	WAVES 2 1442	WET B 07.7	STN 004
LAT 43-290N	DAY 06	NO.DPTH 7	WND-DIR 160	WW-CODE 63	
LON 62-270W	HR 09.5	W-COLOR	WND-SPD 14	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1002.	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
095	0000	0340	32030		2551	14603					
095	0010	0326	32140		2561	14600					
095	0019	0326	32140		2561	14602					
095	0029	0326	32140		2561	14603					
095	0048	0324	32140		2561	14605					
095	0058	0335	32210		2565	14613					
095	0083	0411	32940		2616	14659					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0340	32030		2551	14603	0000	00000	2485
0010	0326	32140		2561	14600	0025	00001	2391
0020	0326	32140		2561	14602	0049	00005	2391
0030	0326	32138		2560	14603	0073	00011	2393
0050	0325	32147		2561	14607	0121	00031	2387
0075	0380	3265 C		2596	14641	0177	00066	2056

C-REF-NO 345	YR 1962	DEPTH 99	WAVES 1 18X3	AIR T 08.1	VIS 93
CONS. NO 005	MONTH 2	MXSAMPD 01	WAVES 2 1442	WET B 08.1	STN 005
LAT 43-110N	DAY 06	NO.DPTH 8	WND-DIR 180	WW-CODE 44	
LON 62-061W	HR 13.1	W-COLOR	WND-SPD 12	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 994.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
131	0000	0310	31980		2549	14589					
131	0010	0290	31980		2551	14582					
131	0020	0290	31980		2551	14584					
131	0030	0285	31980		2551	14584					
131	0049	0281	32070		2559	14586					
131	0074	0369	32920		2619	14640					
131	0089	0389	33120		2633	14653					
131	0093	0380	33120		2633	14650					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0310	31980		2549	14589	0000	00000	2498
0010	0290	31980		2551	14582	0025	00001	2482
0020	0290	31980		2551	14584	0050	00005	2483
0030	0285	31980		2551	14583	0075	00012	2479
0050	0284	3210 C		2561	14588	0124	00032	2386
0075	0372	32942		2620	14641	0177	00065	1830

C-REF-NO 345	YR 1962	DEPTH 1280	WAVES 1 18X3	AIR T 07.7	VIS 93
CONS. NO 006	MONTH 2	MXSAMPD 05	WAVES 2 1442	WET B 07.7	STN 006
LAT 42-510N	DAY 06	NO.DPTH 14	WND-DIR 180	WW-CODE 44	
LON 61-440W	HR 17.0	W-COLOR	WND-SPD 11	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1000.	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
170	0000	0290	31960		2549	14580					
170	0009	0278	31960		2550	14577					
170	0019	0278	31960		2550	14578					
170	0028	0276	31960		2551	14579					
170	0047	0372	32480		2583	14630					
170	0070	0722	33420		2617	14790					
170	0094	0954	34070		2632	14890					
170	0141	1125	35170		2688	14974					
170	0193	0928	34976		2707	14909					
170	0240	0799									
170	0285	0738	34870		2728	14850					
170	0368	0568	34870		2751	14797					
170	0434	0514	34876		2758	14786					
170	0500	0477	34906		2765	14782					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0290	31960		2549	14580	0000	00000	2497
0010	0278	31960		2550	14577	0025	00001	2488
0020	0277	31956		2550	14578	0050	00005	2490
0030	0279	3199 C		2553	14581	0075	00012	2464
0050	0414 D	3260 D		2589	14650	0121	00030	2124
0075	0780	3357 C		2620	14815	0171	00062	1834
0100	0996	3425 F		2639	14909	0215	00101	1662
0125	1106	3488 I		2669	14961	0254	00145	1394
0150	1103 F	3519 I		2693	14968	0286	00190	1167
0175	1016 I	3512 I		2704	14940	0314	00237	1070
0200	0905	34961		2710	14901	0340	00287	1014
0225	0834	3492 C		2718	14878	0365	00341	0943
0250	0784	3489 C		2723	14863	0388	00397	0895
0300	0706 C	34866		2733	14840	0431	00518	0807
0400	0536	34871		2755	14789	0502	00767	0596
0500	0477	34906		2765	14782	0558	01023	0510

C-REF-NO 345 YR 1962 DEPTH 1650 WAVES 1 X6 AIR T 05.7 VIS 91
 CONS. NO 007 MONTH 2 MXSAMPD 06 WAVES 2 1446 WET B 05.4 STN 007
 LAT 42-320N DAY 06 NO.DPTH 14 WND-DIR 240 WW-CODE 03
 LON 61-240W HR 21.0 W-COLOR WND-SPD 11 CLD-TPE 0
 MARSD 6Q 151 W-TRNSP BARO 1005. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
210	0000	4 0370	32300		2569	14620					
210	0010	0288	32120		2562	14583					
210	0020	0374	32500		2585	14627					
210	0030	0557	32880		2595	14710					
210	0050	0690	33530		2630	14775					
210	0075	1166	34870		2657	14974					
210	0100	1220	35190		2672	15000					
210	0150	1213	35390		2688	15009					
210	0200	1095	35348		2707	14975					
210	0246	0918	35132		2721	14916					
210	0296	4 0954	34947		2701	14935					
210	0394	4 0713	35013		2743	14861					
210	0493	4 0496	34907		2763	14788					
210	0591	4 0497	34970		2768	14806					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0370	32300		2569	14620	0000	00000	2307
0010	0288	32120		2562	14583	0024	00001	2375
0020	0374	32500		2585	14627	0046	00005	2161
0030	0557	32880		2595	14710	0068	00010	2063
0050	0690	33530		2630	14775	0106	00025	1741
0075	1166	34870		2657	14974	0147	00051	1492
0100	1220	35190		2672	15000	0183	00083	1362
0125	1233	3534 E		2681	15011	0216	00122	1281
0150	1213	35390		2688	15009	0247	00166	1215
0175	1166	35397		2698	14997	0277	00215	1130
0200	1095	35348		2707	14975	0304	00268	1045
0225	0990 F	3524 C		2717	14940	0329	00322	0952
0250	0918 B	35114		2720	14916	0353	00380	0932
0300	0948 B	3495 B		2702	14933	0405	00527	1114
0400	0696	35007		2745	14855	0497	00847	0706
0500	0522 I	3496 I		2764	14801	0559	01129	0521
0600	0500 B	3497 B		2767	14809	0610	01421	0502

C-REF-NO 345	YR 1962	DEPTH	82	WAVES 1 27X2	AIR T -10.1	VIS 97
CONS. NO 008	MONTH 2	MXSAMPD	01	WAVES 2 XX	WET B -11.1	STN 008
LAT 46-570N	DAY 07	NO.DPTH	8	WND-DIR 270	WW-CODE 01	
LON 60-130W	HR 22.2	W-COLOR		WND-SPD 13	CLD-TPE 6	
MARSD SQ 151		W-TRNSP		BARO 1019.	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
222	0000	4 -0180	30770	833	2477	14350	095			006	
222	0010	-0140	30930	838	2489	14373					
222	0020	-0137	30930	833	2489	14376					
222	0030	-0134	31020	825	2496	14380					
222	0040	-0130	31020	876	2496	14384					
222	0050	-0124	31200		2511	14391					
222	0060	-0069	31510	828	2534	14422					
222	0080	-0050	32340	799	2600	14446					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0180	30770		2477	14350	0000	00000	3187
0010	-0140	30930		2489	14373	0031	00002	3069
0020	-0137	30930		2489	14376	0062	00006	3068
0030	-0134	31020		2496	14380	0093	00014	2999
0050	-0124	31200		2511	14390	0152	00038	2861
0075	-0059 C	3209 B		2581	14437	0215	00078	2192

C-REF-NO 345 YR 1962 DEPTH 307 WAVES 1 XX AIR T -13.1 VIS 97
 CONS. NO 009 MONTH 2 MXSAMPD 03 WAVES 2 82 WET B -13.2 STN 009
 LAT 47-069N DAY 08 NO.DPTH 12 WND-DIR 300 WW-CODE 71
 LON 60-000W HR 01.0 W-COLOR WND-SPD 08 CLD-TPE 6
 MARSD SQ 151 W-TRNSP BARO 1021. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
010	0000	5 -0170	31150	789	2508	14360					
010	0010	-0156	31150	841	2507	14368					
010	0020	-0158	31150	848	2507	14369					
010	0030	-0159	31260	835	2516	14371					
010	0040	-0159	31260	828	2516	14373					
010	0050	-0150	31330	828	2522	14380					
010	0075	-0037	31910	794	2565	14445					
010	0100	-0013	32070	784	2577	14463					
010	0150	0215	33510	551	2679	14593					
010	0200	0466	34302	434	2718	14720					
010	0250	0480	34309	414	2717	14734					
010	0300	0469	34381	404	2724	14738					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31150		2508	14360	0000	00000	2895
0010	-0156	31150		2507	14368	0029	00001	2896
0020	-0158	31150		2507	14369	0058	00006	2895
0030	-0159	31260		2516	14371	0087	00013	2809
0050	-0150	31330		2522	14380	0143	00036	2755
0075	-0037	31910		2565	14445	0207	00077	2341
0100	-0013	32070		2577	14463	0264	00128	2227
0125	0085 E	3274 I		2626	14521	0315	00185	1768
0150	0215	33510		2679	14593	0353	00238	1271
0175	0354 E	3400 B		2706	14664	0382	00286	1027
0200	0466	34302		2718	14720	0407	00333	0915
0225	0489 D	3435 I		2719	14734	0429	00383	0907
0250	0480	34309		2717	14734	0453	00440	0931
0300	0469	34381		2724	14738	0498	00568	0870

C-REF-NO 345	YR 1962	DEPTH 446	WAVES 1 XX	AIR T -13.1	VIS 97
CONS. NO 010	MONTH 2	MXSAMPD 04	WAVES 2 82	WET B -13.1	STN 010
LAT 47-162N	DAY 08	NO.DPTH 14	WND-DIR 300	WW-CODE 71	
LON 59-470W	HR 04.2	W-COLOR	WND-SPD 09	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1023.	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
042	0000	-0160	31270	828	2517	14366					
042	0010	-0143	31470	823	2533	14379					
042	0020	-0123		823							
042	0030	-0059		794							
042	0040	-0024	32160	764	2585	14449					
042	0050	0022	32380	734	2601	14475					
042	0075	0044	32630	703	2620	14493					
042	0100	0040	32950	673	2646	14499					
042	0148	0122	33280	606	2667	14549					
042	0197	0386	33967	496	2700	14681					
042	0247	0467	34492	410	2733	14730					
042	0297	0484	34636	419	2743	14748					
042	0396	0466	34802	458	2758	14759					
042	0431	0460	34827	456	2761	14762					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31270		2517	14366	0000	00000	2804
0010	-0143	31470		2533	14379	0027	00001	2653
0020	-0123	3170 B		2551	14393	0053	00005	2483
0030	-0059	3193 B		2567	14428	0077	00011	2324
0050	0022	32380		2601	14475	0121	00029	2008
0075	0044	32630		2620	14492	0169	00060	1828
0100	0040	32950		2646	14499	0212	00098	1582
0125	0064	3312 I		2658	14517	0251	00142	1462
0150	0133 B	33306		2669	14554	0286	00192	1366
0175	0268 H	3365 G		2686	14622	0319	00246	1211
0200	0394	34006		2702	14686	0347	00301	1061
0225	0447 C	3430 C		2720	14716	0372	00355	0902
0250	0469	34507		2734	14732	0393	00406	0771
0300	0484	34643		2743	14748	0430	00509	0691
0400	0470 B	34807		2758	14761	0493	00734	0564

C-REF-NO 345 YR 1962 DEPTH 454 WAVES 1 X1 AIR T -11.5 VIS 98
 CONS. NO 011 MONTH 2 MXSAMPD 04 WAVES 2 XX WET B STN 011
 LAT 47-260N DAY 08 NO.DPTH 14 WND-DIR 170 WW-CODE 94
 LON 59-350W HR 07.3 W-COLOR WND-SPD 09 CLD-TPE 9
 MARSD SQ 150 W-TRNSP BARO 1024. CLD-AMT 4 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
073	0000	-0160	30970	848	2493	14362						
073	0010	-0168	30990	835	2495	14360						
073	0020	-0163	31020	841	2497	14365						
073	0030	-0122	31200	833	2511	14388						
073	0040	-0098	31510	828	2535	14405						
073	0050	5 -0084	31670	862	2548	14416						
073	0075	-0004	31920	838	2565	14461						
073	0100	0040	32270	759	2591	14490						
073	0150	0044	32990	649	2649	14510						
073	0200	0364	33838	488	2692	14671						
073	0250	0497	34476	458	2729	14743						
073	0300	0489	34642	411	2743	14750						
073	0400	0459	34828	466	2761	14757						
073	0450	0457	34835	470	2761	14764						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	30970		2493	14362	0000	00000	3035
0010	-0168	30990		2495	14360	0030	00002	3018
0020	-0163	31020		2497	14365	0061	00006	2994
0030	-0122	31200		2511	14388	0090	00014	2863
0050	-0084	31670		2548	14416	0144	00036	2510
0075	-0004	31920		2565	14461	0205	00074	2347
0100	0040	32270		2591	14490	0261	00124	2100
0125	0029 I	3262 B		2620	14494	0311	00181	1826
0150	0044	32990		2649	14510	0353	00240	1552
0175	0196 I	3342 E		2673	14588	0389	00300	1326
0200	0364	33838		2692	14671	0421	00360	1157
0225	0451	3420 D		2712	14716	0448	00419	0978
0250	0497	34476		2729	14743	0470	00474	0825
0300	0489	34642		2743	14750	0509	00582	0698
0400	0459	34828		2761	14757	0571	00801	0536

C-REF-NO 345 YR 1962 DEPTH 245 WAVES 1 XX AIR T -10.8 VIS 97
 CONS. NO 012 MONTH 2 MXSAMPD 02 WAVES 2 42 WET B -12.1 STN 012
 LAT 47-350N DAY 08 NO.DPTH 11 WND-DIR 280 WW-CODE 77
 LON 59-205W HR 09.8 W-COLOR WND-SPD 10 CLD-TPE
 MARSD SQ 150 W-TRNSP BARO 1026. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
098	0000	-0170	31350	833	2524	14363						
098	0010	-0166	31350	845	2524	14366						
098	0019	-0164	31560		2541	14371						
098	0029	-0144	31740		2555	14385						
098	0039	-0136	31740		2555	14391						
098	0048	-0136	31800		2559	14393						
098	0075	-0080	31910		2567	14425						
098	0100	0052	32680		2623	14501						
098	0150	0266	33640		2685	14618						
098	0200	0434	34274		2720	14706						
098	0208 1		34422									

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31350		2524	14363	0000	00000	2741
0010	-0166	31350		2524	14366	0028	00001	2741
0020	-0162	31583		2542	14373	0054	00005	2561
0030	-0143	3174 B		2555	14386	0079	00012	2441
0050	-0135	3180 C		2559	14394	0128	00032	2399
0075	-0080	31910		2567	14425	0188	00070	2326
0100	0052	32680		2623	14501	0239	00115	1793
0125	0166	3323 F		2660	14564	0280	00162	1447
0150	0266	33640		2685	14618	0314	00209	1214
0175	0358							
0200	0434	34274		2720	14706	0367	00303	0901

C-REF-NO 345 YR 1962 DEPTH 146 WAVES 1 25X2 AIR T -12.8 VIS 97
 CONS. NO 013 MONTH 2 MXSAMPD 01 WAVES 2 42 WET B -13.2 STN 013
 LAT 47-570N DAY 08 NO.DPTH 9 WND-DIR 260 WW-CODE 15
 LON 59-290W HR 13.2 W-COLOR WND-SPD 09 CLD-TPE 6
 MARSD SQ 150 W-TRNSP BARO 1027. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T B M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
132	0000	-0145	31640		2547	14379						
132	0010	-0148	31800	838	2560	14381						
132	0020	-0145	31870		2565	14385						
132	0029	-0146	31780		2558	14385						
132	0039	-0146	31650		2548	14385						
132	0049	-0146	31650		2548	14386						
132	0073		32290	734								
132	0098	0040	32610		2618	14494						
132	0132	0142	33210	596	2660	14554						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0145	31640		2547	14379	0000	00000	2522
0010	-0148	31800		2560	14381	0025	00001	2398
0020	-0145	31870		2565	14385	0049	00005	2343
0030	-0146	31765		2557	14385	0073	00011	2423
0050	-0144	3167 C		2549	14388	0122	00031	2494
0075	-0064 G	3232 B		2599	14439	0179	00067	2017
0100	0008 I	3274 I		2630	14482	0226	00109	1728
0125	0110 D	3312 G		2655	14537	0267	00155	1492

C-REF-NO 345 YR 1962 DEPTH 313 WAVES 1 24X2 AIR T -12.9 VIS 98
 CONS. NO 014 MONTH 2 MXSAMPD 03 WAVES 2 42 WET B -13.4 STN 014
 LAT 48-080N DAY 08 NO.DPTH 12 WND-DIR 220 WW-CODE 02
 LON 59-500W HR 16.0 W-COLOR WND-SPD 09 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1028. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
160	0000	-0148	31780		2558	14379					
160	0010	-0143	31780	833	2558	14383					
160	0020	-0139	31800	833	2560	14387					
160	0030	-0138	31800	822	2560	14389					
160	0040	-0128	31800	822	2559	14395					
160	0050	-0087	31910	798	2567	14418					
160	0075 5	0009	32300	798	2595	14472					
160	0096	0062	32810	680	2633	14507					
160	0144	0133	33170	606	2658	14552					
160	0192	0320	33793	596	2693	14650					
160	0240	0433	34205	463	2714	14711					
160	0288		34552	448							

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0148	31780		2558	14379	0000	00000	2414
0010	-0143	31780		2558	14383	0024	00001	2414
0020	-0139	31800		2560	14387	0049	00005	2399
0030	-0138	31800		2560	14389	0073	00011	2398
0050	-0087	31910		2567	14418	0120	00031	2326
0075	0009	32300		2595	14472	0175	00066	2063
0100	0067 B	3286 F		2637	14510	0222	00107	1667
0125	0102 D	3308 I		2652	14533	0262	00153	1519
0150	0155 B	3325 C		2662	14563	0300	00205	1427
0175	0251 D	3357 F		2681	14614	0333	00261	1256
0200	0311 I	33871		2700	14648	0363	00318	1082
0225	0386 D	3409 B		2710	14687	0389	00375	0990
0250		3431 E						

C-REF-NO 345 YR 1962 DEPTH 393 WAVES 1 XX AIR T -09.9 VIS 98
 CONS. NO 015 MONTH 2 MXSAMPD 03 WAVES 2 XX WET B STN 015
 LAT 48-280N DAY 08 NO.DPTH 13 WND-DIR 200 WW-CODE 03
 LON 60-290W HR 19.5 W-COLOR WND-SPD 09 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1027. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
195	0000	-0150	31830	833	2562	14379						
195	0010 5	-0160	31830	818	2562	14376						
195	0020	-0163	31830	848	2562	14376						
195	0030	-0165	31830	848	2562	14377						
195	0040	-0166	31830	862	2563	14378						
195	0050 2	-0152	31830	848	2562	14386						
195	0075	-0164	31830	843	2562	14385						
195	0100	-0132	32200	838	2592	14409						
195	0150	0083	33040	636	2650	14528						
195	0200	0291	33734	463	2691	14638						
195	0250	0444	34283	379	2719	14718						
195	0300	0483	34560	355	2737	14747						
195	0350	0480	34666	404	2746	14755						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0150	31830		2562	14379	0000	00000	2375
0010	-0160	31830		2562	14376	0024	00001	2372
0020	-0163	31830		2562	14376	0048	00005	2371
0030	-0165	31830		2562	14377	0072	00011	2369
0050	-0152	31830		2562	14386	0119	00031	2370
0075	-0164	31830		2562	14385	0179	00069	2365
0100	-0132	32200		2592	14409	0235	00119	2086
0125	-0037 D	3262 D		2623	14464	0284	00175	1796
0150	0083	33040		2650	14528	0326	00233	1537
0175	0191	33405		2672	14586	0362	00293	1333
0200	0291	33734		2691	14638	0393	00354	1167
0225	0378	3404 B		2706	14683	0421	00414	1025
0250	0444	34283		2719	14718	0445	00473	0910
0300	0483	34560		2737	14747	0487	00590	0752

C-REF-NO 345 YR 1962 DEPTH 320 WAVES 1 XX AIR T -10.6 VIS 98
 CONS. NO 016 MONTH 2 MXSAMPD 03 WAVES 2 XX WET B -11.9 STN 016
 LAT 48-440N DAY 08 NO.DPTH 12 WND-DIR 230 WW-CODE 02
 LON 60-590W HR 22.6 W-COLOR WND-SPD 10 CLD-TPE 1
 MARSD SQ 151 W-TRNSP BARO 1026. CLD-AMT 2 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
226	0000	3 -0168	31670	882	2550	14368						
226	0010	-0170	31870	853	2566	14372						
226	0020	-0169	31870	877	2566	14374						
226	0030	-0170	31870	815	2566	14375						
226	0040	-0169	31870	823	2566	14377						
226	0050	-0170	31960	818	2573	14379						
226	0075	-0161	32030	818	2579	14389						
226	0100	-0029	32360	698	2601	14459						
226	0150	0137	33300	527	2668	14556						
226	0200	0436	34324	330	2723	14707						
226	0250	0481	34627	340	2742	14738						
226	0300	0479	34706	394	2749	14747						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0168	31670		2550	14368	0000	00000	2495
0010	-0170	31870		2566	14372	0024	00001	2339
0020	-0169	31870		2566	14374	0048	00005	2339
0030	-0170	31870		2566	14375	0071	00011	2338
0050	-0170	31960		2573	14379	0118	00030	2266
0075	-0161	32030		2579	14389	0174	00066	2212
0100	-0029	32360		2601	14459	0227	00113	1999
0125	0054 F	3280 D		2633	14508	0274	00166	1702
0150	0137	33300		2668	14556	0312	00221	1374
0175	0294 H	3385 I		2700	14637	0343	00272	1080
0200	0436	34324		2723	14707	0368	00318	0866
0225	0477 D	3454 G		2735	14732	0388	00363	0756
0250	0481	34627		2742	14738	0407	00407	0694
0300	0479	34706		2749	14747	0440	00502	0639

C-REF-NO 345	YR 1962	DEPTH 51	WAVES 1 XX	AIR T -09.7	VIS 98
CONS. NO 017	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -09.8	STN 017
LAT 49-000N	DAY 09	NO.DPTH 6	WND-DIR 200	WW-CODE 02	
LON 61-381W	HR 03.2	W-COLOR	WND-SPD 09	CLD-TPE 8	
MARSD SQ 151		W-TRNSP	BARO 1026.	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
032	0000	-0170	32160	838	2589	14374					
032	0010	-0175	32160	815	2589	14373					
032	0020	-0178	32090	823	2584	14372					
032	0030	-0176	32120	843	2586	14375					
032	0040	-0175	32120	833	2586	14378					
032	0051						055			005	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32160		2589	14374	0000	00000	2117
0010	-0175	32160		2589	14373	0021	00001	2115
0020	-0178	32090		2584	14372	0043	00004	2168
0030	-0176	32120		2586	14375	0065	00010	2144

C-REF-NO 345	YR 1962	DEPTH 388	WAVES 1 XX	AIR T -08.2	VIS 98
CONS. NO 018	MONTH 2	MXSAMPD 04	WAVES 2 XX	WET B	STN 018
LAT 48-410N	DAY 09	NO.DPTH 14	WND-DIR 160	WW-CODE 02	
LON 61-450W	HR 07.8	W-COLOR	WND-SPD 05	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1025.	CLD-AMT 0	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
078	0000	-0160	31820	838	2562	14374					
078	0010	-0172	31890	815	2567	14371					
078	0020	-0172	31890	822	2567	14372					
078	0030		31890	820							
078	0040		31890	851							
078	0050	-0169	31890	871	2567	14379					
078	0075	-0168	31910	880	2569	14384					
078	0100	-0164	31980	864	2575	14391					
078	0150	0079	32790	631	2631	14523					
078	0200	0424	34302	370	2723	14702					
078	0250	0471	34739	383	2752	14736					
078	0300	0467	34805	404	2758	14743					
078	0380	0466	34821	400	2759	14756					
078	0388						145			042	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31820		2562	14374	0000	00000	2381
0010	-0172	31890		2567	14371	0024	00001	2324
0020	-0172	31890		2567	14372	0047	00005	2323
0030	-0171	31890		2567	14375	0070	00011	2322
0050	-0169	31890		2567	14379	0117	00030	2320
0075	-0168	31910		2569	14384	0175	00067	2303
0100	-0164	31980		2575	14391	0233	00119	2247
0125	-0068 D	3229 C		2597	14444	0287	00180	2039
0150	0079	32790		2631	14523	0334	00247	1724
0175	0264 H	3357 I		2680	14620	0372	00309	1267
0200	0424	34302		2723	14702	0399	00360	0870
0225	0469 E	3461 I		2742	14729	0418	00403	0690
0250	0471	34739		2752	14736	0434	00442	0599
0300	0467	34805		2758	14743	0463	00524	0551

C-REF-NO 345 YR 1962 DEPTH 435 WAVES 1 XX AIR T -08.9 VIS 98
 CONS. NO 019 MONTH 2 MXSAMPD 04 WAVES 2 XX WET B -09.0 STN 019
 LAT 48-310N DAY 09 NO.DPTH 3 WND-DIR 170 WW-CODE 78
 LON 61-490W HR 10.8 W-COLOR WND-SPD 07 CLD-TPE 1
 MARSD SQ 151 W-TRNSP BARO 1024. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
108	0000	-0160	31820	833	2562	14374						
108	0430	0467	34817	419	2759	14765						
108	0435											035

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31820		2562	14374	0000	00000	2381

C-REF-NO 345 YR 1962 DEPTH 358 WAVES 1 X1 AIR T -02.1 VIS 93
 CONS. NO 020 MONTH 2 MXSAMPD 04 WAVES 2 XX WET B -02.4 STN 020
 LAT 48-210N DAY 09 NO.DPTH 15 WND-DIR 170 WW-CODE 85
 LON 61-520W HR 19.4 W-COLOR WND-SPD 02 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1018. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
194	0000	2 -0150	31780	858	2558	14378					
194	0010	-0170	31820	845	2562	14371					
194	0020	-0170	31820	841	2562	14372					
194	0030	-0171	31820	838	2562	14374					
194	0040	-0169	31850	813	2564	14377					
194	0050	-0170	31960	818	2573	14379					
194	0075	-0172	31960	828	2573	14383					
194	0100	-0142	32000	805	2576	14401					
194	0150	0202	33440	537	2674	14587					
194	0200	0417	34167	397	2713	14697					
194	0250	0480	34526	389	2734	14737					
194	0300	0474	34769	365	2754	14746					
194	0350	0473	34820	362	2759	14754					
194	0357	0471	34799	365	2757	14754					
194	0358						165			029	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0150	31780		2558	14378	0000	00000	2413
0010	-0170	31820		2562	14371	0024	00001	2378
0020	-0170	31820		2562	14372	0048	00005	2377
0030	-0171	31820		2562	14374	0072	00011	2376
0050	-0170	31960		2573	14379	0119	00030	2266
0075	-0172	31960		2573	14383	0176	00067	2264
0100	-0142	32000		2576	14401	0232	00117	2237
0125	0014 I	3265 I		2623	14487	0283	00175	1796
0150	0202	33440		2674	14587	0322	00230	1314
0175	0327	3387 E		2698	14651	0353	00280	1095
0200	0417	34167		2713	14697	0379	00330	0964
0225	0462 B	3438 D		2725	14723	0402	00380	0858
0250	0480	34526		2734	14737	0422	00430	0768
0300	0474	34769		2754	14746	0456	00525	0586

C-REF-NO 345	YR 1962	DEPTH 316	WAVES 1 XX	AIR T -04.5	VIS 93
CONS. NO 021	MONTH 2	MXSAMPD 03	WAVES 2 XX	WET B -04.6	STN 021
LAT 48-180N	DAY 10	NO.DPTH 2	WND-DIR 040	WW-CODE 71	
LON 61-540W	HR 00.6	W-COLOR	WND-SPD 04	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1014.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
006	0000	-0155	31850	833	2564	14377					
006	0312	0474	34734	370	2752	14747					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0155	31850		2564	14377	0000	00000	2359

C-REF-NO 345 YR 1962 DEPTH 258 WAVES 1 XX AIR T -04.8 VIS 94
 CONS. NO 022 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -05.0 STN 022
 LAT 48-158N DAY 10 NO.DPTH 2 WND-DIR 010 WW-CODE 73
 LON 61-542W HR 03.5 W-COLOR WND-SPD 07 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1012. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
035	0000	-0170	31780	813	2559	14369					
035	0250	0453	34451	322	2731	14724					

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31780		2559	14369	0000	00000	2410
0250	0453	34451		2731	14724	0404	00257	0794

C-REF-NO 345	YR 1962	DEPTH 176	WAVES 1	X1	AIR T -03.1	VIS 93
CONS. NO 023	MONTH 2	MXSAMPD 02	WAVES 2	XX	WET B -03.4	STN 023
LAT 48-140N	DAY 10	NO.DPTH 10	WND-DIR		WW-CODE 86	
LON 61-550W	HR 04.8	W-COLOR	WND-SPD 08		CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1013.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
048	0000	-0160	31870	803	2566	14375					
048	0010	-0171	31870	825	2566	14371					
048	0020	-0171	31870	815	2566	14373					
048	0030	-0170	31870	818	2566	14375					
048	0040	-0170	31870	823	2566	14376					
048	0050	-0169	31870	813	2566	14379					
048	0075	-0153	31920	803	2570	14391					
048	0100	-0090	32230	793	2593	14429					
048	0150	0054	32810	618	2634	14512					
048	0156	0086	32990	588	2646	14530					

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31870		2566	14375	0000	00000	2342
0010	-0171	31870		2566	14371	0024	00001	2339
0020	-0171	31870		2566	14373	0047	00005	2338
0030	-0170	31870		2566	14375	0071	00011	2338
0050	-0169	31870		2566	14379	0118	00030	2336
0075	-0153	31920		2570	14391	0176	00067	2298
0100	-0090	32230		2593	14429	0231	00117	2076
0150	0054	32810		2634	14512	0326	00236	1695

C-REF-NO 345	YR 1962	DEPTH	70	WAVES 1	XX	AIR T -03.0	VIS 94
CONS. NO 024	MONTH 2	MXSAMPD	01	WAVES 2	XX	WET B -03.2	STN 024
LAT 48-110N	DAY 10	NO.DPTH	2	WND-DIR	340	WW-CODE 86	
LON 61-560W	HR 07.9	W-COLOR		WND-SPD	12	CLD-TPE 0	
MARSD 8Q 151		W-TRNSP		BARO	1011.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
079	0000	-0155	31920	828	2570	14378					
079	0070	-0150	32000	791	2576	14393					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0155	31920		2570	14378	0000	00000	2305

C-REF-NO 345	YR 1962	DEPTH 82	WAVES 1 XX	AIR T -10.0	VIS 94
CONS. NO 025	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -10.6	STN 025
LAT 48-088N	DAY 10	NO.DPTH 2	WND-DIR 340	WW-CODE 75	
LON 61-572W	HR 08.6	W-COLOR	WND-SPD 13	CLD-TPE 6	
MARSD SQ 151		W-TRNSP	BARO 1012.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
086	0000	-0162	31640	793	2547	14370						
086	0078	-0128	31980	818	2574	14404						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0162	31640		2547	14370	0000	00000	2519

C-REF-NO 345	YR 1962	DEPTH 73	WAVES 1 XX	AIR T -10.0	VIS 94
CONS. NO 026	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -10.6	STN 026
LAT 48-070N	DAY 10	NO.DPTH 8	WND-DIR 340	WW-CODE 75	
LON 61-580W	HR 09.6	W-COLOR	WND-SPD 12	CLD-TPE 6	
MARSD SQ 151		W-TRNSP	BARO 1012.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
096	0000	-0160	31820	862	2562	14374					
096	0010 3	-0167	31870	872	2566	14373					
096	0020 3	-0168	31870	853	2566	14374					
096	0030	-0167	31800	848	2560	14375					
096	0040	-0166	31820	853	2562	14378					
096	0050	-0166	31820	853	2562	14379					
096	0065	-0138	31890	833	2567	14396					
096	0073						110			006	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31820		2562	14374	0000	00000	2381
0010	-0167	31870		2566	14373	0024	00001	2340
0020	-0168	31870		2566	14374	0047	00005	2339
0030	-0167	31800		2560	14375	0071	00011	2392
0050	-0166	31820		2562	14379	0119	00031	2375

C-REF-NO 345	YR 1962	DEPTH	57	WAVES 1	XX	AIR T -10.9	VIS 97
CONS. NO 027	MONTH 2	MXSAMPD	00	WAVES 2	XX	WET B -11.1	STN 027
LAT 47-570N	DAY 10	NO.DPTH	2	WND-DIR	340	WW-CODE 01	
LON 62-020W	HR 15.1	W-COLOR		WND-SPD	15	CLD-TPE 6	
MARSD SQ 151		W-TRNSP		BARO	1015.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
151	0000	-0160	31740	857	2555	14373					
151	0050	-0175	31920	855	2570	14376					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31740		2555	14373	0000	00000	2442
0050	-0175	31920		2570	14376	0119	00030	2296

C-REF-NO 345	YR 1962	DEPTH 48	WAVES 1	XX	AIR T -07.8	VIS 95
CONS. NO 028	MONTH 2	MXSAMPD 00	WAVES 2	XX	WET B -08.0	STN 028
LAT 47-470N	DAY 10	NO.DPTH 7	WND-DIR 040		WW-CODE 02	
LON 62-065W	HR 17.6	W-COLOR	WND-SPD 13		CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1015.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
176	0000	-0160	31550	827	2540	14370					
176	0010	-0173	31650	821	2548	14367					
176	0020 3	-0172	31730	847	2555	14370					
176	0030	-0172	31640	838	2547	14371					
176	0040	-0172	31670	823	2550	14373					
176	0045	-0173	31760	845	2557	14374					
176	0048						050			005	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31550		2540	14370	0000	00000	2589
0010	-0173	31650		2548	14367	0026	00001	2508
0020	-0172	31730		2555	14370	0051	00005	2446
0030	-0172	31640		2547	14371	0076	00012	2514

C-REF-NO 345 YR 1962 DEPTH 55 WAVES 1 XX AIR T -12.7 VIS 99
 CONS. NO 029 MONTH 2 MXSAMPD 00 WAVES 2 XX WET B -13.1 STN 029
 LAT 47-500N DAY 10 NO.DPTH 6 WND-DIR 360 WW-CODE 01
 LON 62-370W HR 23.4 W-COLOR WND-SPD 16 CLD-TPE 3
 MARSD SQ 151 W-TRNSP BARO 1018. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
234	0000	-0160		843								
234	0010	-0174	31530	853	2538	14365						
234	0020 3	-0174	31740	862	2555	14369						
234	0030	-0171	31620	857	2546	14371						
234	0040	-0170	31690	838	2551	14374						
234	0050	-0170	31980	848	2575	14380						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	3134 I		2522	14367	0000	00000	2753
0010	-0174	31530		2538	14365	0027	00001	2601
0020	-0174	31740		2555	14369	0052	00005	2438
0030	-0171	31620		2546	14371	0077	00012	2530
0050	-0170	31980		2575	14380	0125	00031	2251

C-REF-NO 345 YR 1962 DEPTH 68 WAVES 1 XX AIR T -16.6 VIS 98
 CONS. NO 030 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -16.8 STN 030
 LAT 47-401N DAY 11 NO.DPTH 7 WND-DIR 340 WW-CODE 01
 LON 63-078W HR 13.5 W-COLOR WND-SPD 15 CLD-TPE 1
 MARSD 6Q 151 W-TRNSP BARO 1023. CLD-AMT 4 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
135	0000	-0170	31420	833	2529	14364					
135	0009	-0176		823							
135	0019	-0175		874							
135	0028 3	-0173	31740	874	2555	14371					
135	0038	-0171	31530	853	2538	14371					
135	0048	-0173	31650	853	2548	14373					
135	0058	-0171	31620	864	2546	14375					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31420		2529	14364	0000	00000	2687
0010	-0176	3150 I		2536	14363	0027	00001	2627
0020	-0175	3156 I		2540	14366	0053	00005	2580
0030	-0172	3169 E		2551	14371	0078	00012	2474
0050	-0172	3157 I		2542	14373	0129	00033	2564

C-REF-NO 345	YR 1962	DEPTH 93	WAVES 1 34X2	AIR T -15.6	VIS 99
CONS. NO 031	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -15.6	STN 031
LAT 48-110N	DAY 11	NO.DPTH 8	WND-DIR 340	WW-CODE 01	
LON 63-400W	HR 23.0	W-COLOR	WND-SPD 17	CLD-TPE 1	
MARSD SQ 151		W-TRNSP	BARO 1024.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
230	0000	4 -0160	31130	848	2506	14364					
230	0004	3 -0176	31690	872	2551	14365					
230	0014	-0172	31600	872	2544	14367					
230	0024	-0170	31550	867	2540	14369					
230	0034	3 -0169	31420	867	2529	14370					
230	0054	-0170	31600	843	2544	14375					
230	0069	-0164	31600	872	2544	14380					
230	0084	-0130	31850	655	2563	14402					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31130		2506	14364	0000	00000	2912
0010	-0177 B	3176 I		2557	14367	0027	00001	2422
0020	-0171	3157 B		2542	14369	0052	00005	2568
0030	-0169	3147 C		2533	14369	0078	00012	2647
0050	-0170	3155 G		2540	14374	0131	00033	2583
0075	-0150	3173 I		2554	14390	0194	00074	2443

C-REF-NO 345	YR 1962	DEPTH 76	WAVES 1 X1	AIR T -14.0	VIS 98
CONS. NO 032	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -14.2	STN 032
LAT 48-220N	DAY 12	NO.DPTH 7	WND-DIR 300	WW-CODE 85	
LON 63-221W	HR 04.3	W-COLOR	WND-SPD 16	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1019.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
043	0000	3 -0160	31740	836	2555	14373					
043	0010	-0168	31420	825	2529	14366					
043	0020	3 -0168	31550	843	2540	14370					
043	0030	-0167	31350	822	2524	14369					
043	0040	-0167	31380	822	2526	14371					
043	0050	-0167	31420	833	2529	14373					
043	0070	-0107	31740	786	2554	14409					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31740		2555	14373	0000	00000	2442
0010	-0168	31420		2529	14366	0026	00001	2686
0020	-0168	31550		2540	14370	0052	00005	2585
0030	-0167	31350		2524	14369	0079	00012	2738
0050	-0167	31420		2529	14373	0134	00035	2682

C-REF-NO 345 YR 1962 DEPTH 64 WAVES 1 31X2 AIR T -11.4 VIS 98
 CONS. NO 033 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -11.8 STN 033
 LAT 48-192N DAY 12 NO.DPTH 7 WND-DIR 310 WW-CODE 70
 LON 63-165W HR 23.3 W-COLOR WND-SPD 21 CLD-TPE 5
 MARSD SQ 151 W-TRNSP BARO 1006. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
233	0000	-0160	31530	843	2538	14370						
233	0010	-0168	31530	853	2538	14368						
233	0019	-0168	31530	862	2538	14369						
233	0029	-0168	31530	867	2538	14371						
233	0039	-0166	31530	853	2538	14373						
233	0048	-0168	31530	853	2538	14374						
233	0058	-0168	31530	843	2538	14376						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31530		2538	14370	0000	00000	2604
0010	-0168	31530		2538	14368	0026	00001	2602
0020	-0168	31530		2538	14369	0052	00005	2601
0030	-0168	31530		2538	14371	0079	00012	2600
0050	-0167	31530		2538	14375	0131	00034	2598

C-REF-NO 345 YR 1962 DEPTH 104 WAVES 1 XX AIR T -08.1 VIS 96
 CONS. NO 034 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -08.1 STN 034
 LAT 48-260N DAY 13 NO.DPTH 8 WND-DIR 320 WW-CODE 85
 LON 63-163W HR 01.1 W-COLOR WND-SPD 24 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1005. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
011	0000	-0163	31350	853	2524	14366						
011	0008	-0164	31440	862	2531	14368						
011	0017	-0168	31440	872	2531	14368						
011	0025	-0169	31460	872	2533	14369						
011	0034	-0167	31460	862	2533	14371						
011	0042	-0169	31460	857	2533	14372						
011	0064	-0166	31490	857	2535	14377						
011	0081	-0064		744								

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0163	31350		2524	14366	0000	00000	2742
0010	-0165	3144 B		2531	14368	0027	00001	2669
0020	-0169	31447		2532	14368	0054	00006	2664
0030	-0168	31461		2533	14370	0081	00012	2652
0050	-0177 C	31469		2533	14369	0134	00034	2643
0075	-0100 C							

C-REF-NO 345	YR 1962	DEPTH 121	WAVES 1 XX	AIR T -07.7	VIS 98
CONS. NO 035	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -07.9	STN 035
LAT 48-290N	DAY 13	NO.DPTH 2	WND-DIR 320	WW-CODE 02	
LON 63-164W	HR 02.0	W-COLOR	WND-SPD 21	CLD-TPE 9	
MARSD SQ 151		W-TRNSP	BARO 1006.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
020	0000	-0151	31640	843	2547	14376					
020	0091	1 0026	32500	675	2610	14485					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0151	31640		2547	14376	0000	00000	2521

C-REF-NO 345	YR 1962	DEPTH 157	WAVES 1 XX	AIR T -07.8	VIS 97
CONS. NO 036	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -07.9	STN 036
LAT 48-32ON	DAY 13	NO.DPTH 2	WND-DIR 320	WW-CODE 86	
LON 63-17OW	HR 03.1	W-COLOR	WND-SPD 20	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1006.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
031	0000	-0162	31740	833	2555	14372					
031	0141	0298	33780	429	2694	14632					

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0162	31740		2555	14372	0000	00000	2442

C-REF-NO 345	YR 1962	DEPTH 177	WAVES 1 X1	AIR T -07.8	VIS 95
CONS. NO 037	MONTH 2	MXSAMPD 02	WAVES 2 XX	WET B -08.1	STN 037
LAT 48-350N	DAY 13	NO.DPTH 2	WND-DIR 340	WW-CODE 75	
LON 63-170W	HR 04.2	W-COLOR	WND-SPD 22	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1006.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
042	0000	-0150	31460	823	2532	14374					
042	0162 I	0160	33190	532	2657	14567					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0150	31460		2532	14374	0000	00000	2660

C-REF-NO 345 YR 1962 DEPTH 176 WAVES 1 X1 AIR T -07.8 VIS 96
 CONS. NO 038 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -08.1 STN 038
 LAT 48-380N DAY 13 NO.DPTH 10 WND-DIR 340 WW-CODE 75
 LON 63-160W HR 06.3 W-COLOR WND-SPD 20 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1005. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
063	0000	4 -0160	28980	744	2332	14334					
063	0007	-0174	31670	815	2550	14366					
063	0014	5 -0173	31740	833	2555	14369					
063	0021	-0173	31740	818	2555	14370					
063	0028	-0171	31740	813	2555	14372					
063	0035	-0173	31740	815	2555	14372					
063	0053	-0165	31780	813	2558	14380					
063	0071	-0133	32030	784	2578	14401					
063	0106	1 0043	32830	621	2636	14500					
063	0117	1 0212	33440	478	2674	14586					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	28980		2332	14334	0000	00000	4571
0010	-0174	3187 I		2565	14369	0035	00001	2343
0020	-0173	31742		2556	14370	0059	00005	2436
0030	-0172	31740		2555	14372	0083	00011	2438
0050	-0168	31764		2557	14378	0132	00031	2418
0075	-0131 D	3207 G		2581	14404	0190	00068	2191
0100	-0012 E	3262 I		2621	14471	0241	00113	1811

C-REF-NO 345	YR 1962	DEPTH 199	WAVES 1 X1	AIR T -06.8	VIS 97
CONS. NO 039	MONTH 2	MXSAMPD 02	WAVES 2 XX	WET B -06.9	STN 039
LAT 48-405N	DAY 13	NO. DPTH 2	WND-DIR 340	WW-CODE 02	
LON 63-165W	HR 07.5	W-COLOR	WND-SPD 18	CLD-TPE 2	
MARSD SQ 151		W-TRNSP	BARO 1007.	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
075	0000	-0160	31640	828	2547	14371					
075	0195 1	0416	34414	301	2733	14699					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31640		2547	14371	0000	00000	2519

C-REF-NO 345 YR 1962 DEPTH 245 WAVES 1 31X2 AIR T -07.2 VIS 99
 CONS. NO 040 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -07.4 STN 040
 LAT 48-430N DAY 13 NO.DPTH 2 WND-DIR 310 WW-CODE 01
 LON 63-150W HR 08.4 W-COLOR WND-SPD 21 CLD-TPE 9
 MARSD SQ 151 W-TRNSP BARO 1008. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
084	0000	-0160	30930	828	2490	14361					
084	0163	0298	33779	419	2694	14635					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	30930		2490	14361	0000	00000	3066

C-REF-NO 345	YR 1962	DEPTH 282	WAVES 1 30X2	AIR T -08.4	VIS 98
CONS. NO 041	MONTH 2	MXSAMPD 02	WAVES 2 XX	WET B -09.3	STN 041
LAT 48-465N	DAY 13	NO.DPTH 2	WND-DIR 300	WW-CODE 03	
LON 63-142W	HR 09.7	W-COLOR	WND-SPD 20	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1010.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T B M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
097	0000	-0160	31240	823	2515	14366					
097	0213	0360	34128	330	2716	14675					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31240		2515	14366	0000	00000	2827

C-REF-NO 345 YR 1962 DEPTH 280 WAVES 1 XX AIR T -09.4 VIS 98
 CONS. NO 042 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -10.3 STN 042
 LAT 48-490N DAY 13 NO.DPTH 11 WND-DIR 310 WW-CODE 03
 LON 63-160W HR 15.4 W-COLOR WND-SPD 17 CLD-TPE 4
 MARSD SQ 151 W-TRNSP BARO 1011. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
154	0000	3 -0165	31890	843	2567	14373						
154	0009	3 -0172	31940	872	2572	14371						
154	0018	5 -0172	31740	833	2555	14370						
154	0027	5 -0172	31740	828	2555	14372						
154	0036	5 -0170	31740	877	2555	14374						
154	0045	-0170	31740	857	2555	14375						
154	0068	-0168	31740	857	2555	14380						
154	0095	-0169	31740	853	2555	14384						
154	0143	-0022		719								
154	0191	0272	32425	468	2588	14610						
154	0238	0462	33715	276	2672	14716						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0165	31890		2567	14373	0000	00000	2326
0010	-0172	3192 C		2570	14371	0023	00001	2301
0020	-0172	3173 B		2555	14370	0047	00005	2445
0030	-0171	31740		2555	14372	0072	00011	2437
0050	-0170	31740		2555	14376	0121	00031	2436
0075	-0171	31736		2555	14380	0182	00071	2436
0100	-0162	3173 D		2554	14388	0243	00126	2440
0125	-0097	3176 I		2555	14423	0305	00196	2435
0150	0019 C	3191 I		2563	14484	0365	00282	2364
0175	0171 E	3218 I		2576	14560	0423	00378	2244
0200	0274 I	3275 I		2613	14617	0475	00478	1896
0225	0396 E	3335 I		2650	14682	0519	00572	1557

C-REF-NO 345 YR 1962 DEPTH 400 WAVES 1 X1 AIR T -05.7 VIS 98
 CONS. NO 043 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -05.9 STN 043
 LAT 49-015N DAY 13 NO.DPTH 11 WND-DIR 320 WW-CODE 02
 LON 63-160W HR 18.5 W-COLOR WND-SPD 16 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1009. CLD-AMT 2 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
185	0000	3 -0170	32270	840	2598	14375						
185	0008	-0171	32100	850	2584	14374						
185	0016	-0171	32100		2584	14375						
185	0025	-0171	32100		2584	14377						
185	0033	-0169	32100		2584	14379						
185	0041	-0167	32160		2589	14382						
185	0061	-0155	32160		2589	14391						
185	0082	-0142	32180		2590	14401						
185	0123	-0073	32390		2605	14443						
185	0164	0112	32951		2641	14542						
185	0205	0297	33614	425	2680	14640						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32270		2598	14375	0000	00000	2032
0010	-0171	3209 B		2584	14374	0021	00001	2168
0020	-0171	32100		2584	14376	0043	00004	2161
0030	-0170	32096		2584	14378	0065	00010	2163
0050	-0162	3217 C		2590	14386	0108	00028	2105
0075	-0147	32169		2590	14397	0161	00062	2108
0100	-0122	3224 B		2594	14414	0213	00109	2061
0125	-0065	32412		2607	14447	0264	00167	1944
0150	0042 B	3273 C		2628	14506	0310	00232	1746
0175	0142 E	3308 H		2650	14559	0351	00301	1547
0200	0269	3352 B		2675	14625	0388	00370	1313

C-REF-NO 345 YR 1962 DEPTH 110 WAVES 1 28X2 AIR T -07.3 VIS 99
 CONS. NO 044 MONTH 2 MXSAMPD 01 WAVES 2 42 WET B -08.1 STN 044
 LAT 49-152N DAY 13 NO.DPTH 9 WND-DIR 280 WW-CODE 02
 LON 63-165W HR 22.3 W-COLOR WND-SPD 19 CLD-TPE 6
 MARSD SQ 151 W-TRNSP BARO 1016. CLD-AMT 4 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
223	0000	-0150	32340	764	2603	14386					
223	0010	-0146	32340	769	2603	14390					
223	0019	-0144	32340	764	2603	14392					
223	0029	-0143	32340	756	2603	14394					
223	0039	-0142	32380	764	2607	14397					
223	0048		32380	769							
223	0072		32450	774							
223	0096		32590	724							
223	0105	-0089	32590	717	2622	14435					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0150	32340		2603	14386	0000	00000	1983
0010	-0146	32340		2603	14390	0020	00001	1983
0020	-0144	32339		2603	14392	0040	00004	1983
0030	-0143	32344		2604	14394	0060	00009	1979
0050	-0137 B	32383		2607	14401	0099	00025	1949
0075	-0121 B	3247 B		2613	14414	0148	00056	1883
0100	-0095	3258 C		2621	14432	0194	00098	1807

C-REF-NO 345 YR 1962 DEPTH 203 WAVES 1 XX AIR T -10.4 VIS 98
 CONS. NO 045 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -11.3 STN 045
 LAT 49-286N DAY 14 NO.DPTH 10 WND-DIR 320 WW-CODE 02
 LON 63-509W HR 01.9 W-COLOR WND-SPD 09 CLD-TPE 6
 MARSD SQ 151 W-TRNSP BARO 1020. CLD-AMT 2 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
019	0000	-0160	31830		2562	14374						
019	0010	-0172	31730		2555	14369						
019	0019	-0173	31730	843	2555	14370						
019	0029	-0173	31730	828	2555	14371						
019	0039	-0171	31740	828	2555	14374						
019	0048	-0169	31850	823	2564	14378						
019	0073	-0130	31960	833	2572	14402						
019	0097	-0038	32650	646	2625	14459						
019	0145	0240	33530	399	2679	14604						
019	0184	0349	34000	306	2706	14664						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31830		2562	14374	0000	00000	2373
0010	-0172	31730		2555	14369	0024	00001	2447
0020	-0173	31730		2555	14370	0049	00005	2446
0030	-0173	31728		2554	14371	0073	00011	2446
0050	-0168	3185 D		2564	14379	0122	00031	2349
0075	-0124	3201 C		2576	14406	0179	00068	2236
0100	-0020 B	32720		2630	14468	0229	00112	1728
0125	0126 F	3322 E		2662	14546	0269	00157	1424
0150	0223 I	3365 I		2689	14599	0302	00203	1174
0175	0317 D	3393 C		2704	14648	0330	00249	1042

C-REF-NO 345	YR 1962	DEPTH 73	WAVES 1 X1	AIR T -12.1	VIS 98
CONS. NO 046	MONTH 2	MXSAMPD 01	WAVES 2 XX	WET B -12.2	STN 046
LAT 49-435N	DAY 14	NO.DPTH 7	WND-DIR 340	WW-CODE 02	
LON 64-252W	HR 05.7	W-COLOR	WND-SPD 08	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1023.	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
057	0000	-0170	31850	833	2564	14370					
057	0010	-0174	31850	818	2564	14369					
057	0020	-0174	31820	803	2562	14371					
057	0030	-0164	32000	793	2576	14379					
057	0040	-0172	32290	793	2600	14381					
057	0050	-0119	32430	774	2610	14410					
057	0065	-0056	32540	705	2617	14444					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31850		2564	14370	0000	00000	2356
0010	-0174	31850		2564	14369	0024	00001	2354
0020	-0174	31820		2562	14371	0047	00005	2376
0030	-0164	32000		2576	14379	0071	00011	2239
0050	-0119	32430		2610	14410	0113	00028	1917

C-REF-NO 345 YR 1962 DEPTH 229 WAVES 1 X1 AIR T -12.5 VIS 98
 CONS. NO 047 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -12.7 STN 047
 LAT 49-370N DAY 14 NO.DPTH 11 WND-DIR 330 WW-CODE 02
 LON 64-290W HR 07.5 W-COLOR WND-SPD 07 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1024. CLD-AMT 0 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
075	0000	-0170	31800	823	2560	14369					
075	0010 3	-0173	31650	803	2548	14367					
075	0020	-0172	31760	803	2557	14371					
075	0030	-0172	31760	798	2557	14372					
075	0040	-0170	31760	803	2557	14375					
075	0050	-0162	31760	793	2557	14380					
075	0075	-0140	32140	764	2587	14400					
075	0100	-0023	32610	675	2621	14466					
075	0150	0294	33750	381	2692	14631					
075	0200	0437	34356	261	2726	14708					
075	0225	0440	34358	281	2726	14714					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31800		2560	14369	0000	00000	2394
0010	-0173	31650		2548	14367	0025	00001	2508
0020	-0172	31760		2557	14371	0049	00005	2423
0030	-0172	31760		2557	14372	0074	00011	2422
0050	-0162	31760		2557	14380	0123	00031	2422
0075	-0140	32140		2587	14400	0180	00068	2132
0100	-0023	32610		2621	14466	0230	00112	1811
0125	0139 F	3320 I		2659	14552	0271	00159	1453
0150	0294	33750		2692	14631	0303	00204	1155
0175	0388	3414 D		2713	14681	0330	00248	0954
0200	0437	34356		2726	14708	0353	00292	0843
0225	0440	34358		2726	14714	0374	00338	0847

C-REF-NO 345	YR 1962	DEPTH 324	WAVES 1 XX	AIR T -14.3	VIS 99
CONS. NO 048	MONTH 2	MXSAMPD 03	WAVES 2 XX	WET B -14.7	STN 048
LAT 49-304N	DAY 14	NO.DPTH 12	WND-DIR 010	WW-CODE 02	
LCN 64-328W	HR 12.6	W-COLOR	WND-SPD 04	CLD-TPE 4	
MARSD SQ 151		W-TRNSP	BARO 1028.	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
126	0000	-0160		818								
126	0009	-0171		813								
126	0018			815								
126	0027	-0171		815								
126	0037	-0171		813								
126	0046	-0147	31980	784	2574	14390						
126	0069	-0045	32360	719	2602	14447						
126	0092	-0114	32610	719	2624	14422						
126	0137	0274	33680	394	2688	14619						
126	0183	0430	34210	286	2715	14701						
126	0229	0477	34589	296	2740	14733						
126	0274	0476	34739	330	2752	14742						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	3157 I		2541	14370	0000	00000	2573
0010	-0171							
0020	-0173							
0030	-0172							
0050	-0125 C	3203 C		2578	14402	0121	00029	2223
0075	-0063 F	3242 D		2608	14440	0173	00062	1940
0100	-0062 I	3279 I		2637	14450	0218	00102	1656
0125	0148 I	3338 I		2674	14558	0256	00145	1317
0150	0336 B	3387 E		2697	14651	0286	00187	1105
0175	0416 B	3414 C		2711	14692	0313	00231	0977
0200	0457	34372		2725	14717	0336	00275	0852
0225	0476	34564		2738	14731	0356	00319	0733
0250	0491 B	3468 B		2745	14743	0373	00362	0670

C-REF-NO 345 YR 1962 DEPTH 40 WAVES 1 X1 AIR T -10.8 VIS 99
 CONS. NO 049 MONTH 2 MXSAMPD 00 WAVES 2 XX WET B -11.3 STN 049
 LAT 50-103N DAY 14 NO.DPTH 6 WND-DIR 160 WW-CODE 02
 LON 64-120W HR 19.2 W-COLOR WND-SPD 02 CLD-TPE 5
 MARSD SQ 187 W-TRNSP BARO 1031. CLD-AMT 1. HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
192	0000	-0170	32700	764	2633	14382					
192	0009	-0170	32500	774	2617	14380					
192	0019	-0171	32500	774	2617	14381					
192	0028	-0170	32500	779	2617	14383					
192	0033	-0170		779							
192	0040						120			006	

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32700		2633	14382	0000	00000	1702
0010	-0170	32495		2616	14380	0018	00001	1859
0020	-0171	3246 G		2614	14381	0037	00004	1882
0030	-0170							

C-REF-NO 345 YR 1962 DEPTH 82 WAVES 1 X1 AIR T -11.1 VIS 99
 CCNS. NO 050 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -11.6 STN 050
 LAT 50-066N DAY 14 NO.DPTH 8 WND-DIR 310 WW-CODE 02
 LON 64-137W HR 20.5 W-COLOR WND-SPD 02 CLD-TPE 5
 MARSD SQ 187 W-TRNSP BARO 1026. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
205	0000	3 -0155	32990	961	2656	14393					
205	0010	-0159	32430	818	2611	14385					
205	0020	-0137	32430	767	2610	14397					
205	0030	-0113	32470	741	2613	14410					
205	0040	-0101	32470	734	2613	14417					
205	0050	-0077	32500	724	2614	14431					
205	0062	-0058	32570	695	2619	14443					
205	0082						100			005	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0155	32990		2656	14393	0000	00000	1482
0010	-0159	32430		2611	14385	0017	00001	1911
0020	-0137	32430		2610	14397	0036	00004	1915
0030	-0113	32470		2613	14410	0055	00009	1890
0050	-0077	32500		2614	14431	0093	00024	1877

C-REF-NO 345 YR 1962 DEPTH 168 WAVES 1 00X0 AIR T -14.3 VIS 99
 CONS. NO 051 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -14.7 STN 051
 LAT 50-028N DAY 14 NO.DPTH 9 WND-DIR CALM WW-CODE 03
 LON 64-150W HR 22.4 W-COLOR WND-SPD 00 CLD-TPE 5
 MARSD SQ 187 W-TRNSP BARO 1033. CLD-AMT 3 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
224	0000	-0155	32390	793	2608	14384						
224	0010	-0164	32390	793	2608	14382						
224	0020	-0157	32390	772	2608	14387						
224	0030	-0161	32450	764	2613	14387						
224	0040	-0160	32450	754	2613	14389						
224	0050	-0158	32520	744	2618	14393						
224	0075	-0138	32560	744	2621	14407						
224	0100	-0050	32740	695	2633	14455						
224	0150	0175	33480	399	2680	14575						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0155	32390		2608	14384	0000	00000	1943
0010	-0164	32390		2608	14382	0020	00001	1940
0020	-0157	32390		2608	14387	0039	00004	1941
0030	-0161	32450		2613	14387	0058	00009	1893
0050	-0158	32520		2618	14393	0096	00024	1838
0075	-0138	32560		2621	14407	0142	00054	1810
0100	-0050	32740		2633	14455	0186	00093	1700
0125	0038 C	33043		2653	14504	0227	00140	1510
0150	0175	33480		2680	14575	0261	00189	1264

C-REF-NO 345 YR 1962 DEPTH 166 WAVES 1 XX AIR T -14.8 VIS 98
 CONS. NO 052 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -15.1 STN 052
 LAT 50-036N DAY 15 NO.DPTH 9 WND-DIR 030 WW-CODE 03
 LON 63-220W HR 02.1 W-COLOR WND-SPD 12 CLD-TPE 1
 MARSD SQ 187 W-TRNSP BARO 1035. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
021	0000	-0160	32380	786	2607	14382						
021	0010 3	-0167	32300	803	2601	14379						
021	0020 3	-0162	32300	793	2601	14383						
021	0030	-0163	32410	784	2609	14386						
021	0040	-0166	32470	764	2614	14387						
021	0050	-0169	32500	769	2617	14387						
021	0075	-0164	32500	766	2617	14394						
021	0100	-0159	32570	788	2622	14401						
021	0150	0019	32880	628	2641	14497						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	32380		2607	14382	0000	00000	1950
0010	-0167	32300		2601	14379	0020	00001	2009
0020	-0162	32300		2601	14383	0040	00004	2009
0030	-0163	32410		2609	14386	0060	00009	1923
0050	-0169	32500		2617	14387	0098	00025	1851
0075	-0164	32500		2617	14394	0145	00055	1850
0100	-0159	32570		2622	14401	0190	00096	1796
0125	-0081 D	32693		2630	14444	0235	00147	1724
0150	0019	32880		2641	14497	0277	00206	1623

C-REF-NO 345 YR 1962 DEPTH 134 WAVES 1 XX AIR T -15.1 VIS 98
 CONS. NO 053 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -15.6 STN 053
 LAT 49-570N DAY 15 NO.DPTH 9 WND-DIR 040 WW-CODE 02
 LON 62-334W HR 06.0 W-COLOR WND-SPD 13 CLD-TPE 4
 MARSD SQ 151 W-TRNSP BARO 1033. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
060	0000	3	32390	825								
060	0010	-0172	32160	813	2589	14375						
060	0020	-0172	32210	823	2593	14377						
060	0030	3 -0171	32070	784	2582	14377						
060	0040	5 -0173	32210	756	2593	14380						
060	0050	-0172	32160	808	2589	14381						
060	0075	-0164	32210	776	2593	14390						
060	0100	-0068	32500	715	2614	14443						
060	0124	0028	32880	631	2641	14497						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0174 C	32390		2608	14375	0000	00000	1939
0010	-0172	32160		2589	14375	0020	00001	2116
0020	-0172	32210		2593	14377	0042	00004	2076
0030	-0171	32070		2582	14377	0063	00010	2183
0050	-0172	32160		2589	14381	0106	00028	2112
0075	-0164	32210		2593	14390	0159	00061	2073
0100	-0068	32500		2614	14443	0209	00106	1877
0125	0033	32900		2642	14500	0253	00156	1616

C-REF-NO 345 YR 1962 DEPTH 106 WAVES 1 XX AIR T -17.2 VIS 99
 CONS. NO 054 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -17.7 STN 054
 LAT 50-010N DAY 15 NO.DPTH 8 WND-DIR 020 WW-CODE 01
 LON 61-450W HR 09.4 W-COLOR WND-SPD 10 CLD-TPE
 MARSD 8Q 187 W-TRNSP BARO 1033. CLD-AMT 0 HW

O B S E R V E D

GMT	DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
094	0000	-0170	32410	789	2610	14377						
094	0010	-0177	32560	782	2622	14378						
094	0020	-0176	32560	785	2622	14380						
094	0030 3	-0176	32480	784	2615	14381						
094	0040	-0178	32610	782	2626	14383						
094	0050 3	-0176	32520	785	2619	14384						
094	0075	-0178	32630	779	2628	14389						
094	0100	-0180	32630	735	2628	14392						

I N T E R P O L A T E D

DEPTH	TEMP	SAL	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32410		2610	14377	0000	00000	1925
0010	-0177	32560		2622	14378	0019	00001	1807
0020	-0176	32560		2622	14380	0037	00004	1806
0030	-0176	32480		2615	14381	0055	00008	1867
0050	-0176	32520		2619	14384	0093	00024	1834
0075	-0178	32630		2628	14389	0138	00053	1747
0100	-0180	32630		2628	14392	0182	00092	1745

C-REF-NO 345 YR 1962 DEPTH 225 WAVES 1 XX AIR T -16.1 VIS 99
 CONS. NO 055 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -16.2 SIN 055
 LAT 49-480N DAY 15 NO.DPTH 10 WND-DIR 040 WW-CODE 02
 LON 61-476W HR 11.1 W-COLOR WND-SPD 10 CLD-TPE 4
 MARSD SQ 151 W-TRNSP BARO 1023. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T B M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
111	0000	-0170	32360	788	2606	14377						
111	0010	-0173	32410	786	2610	14378						
111	0020	-0174		791								
111	0030	-0174	32380	784	2607	14380						
111	0040	-0174	32380	785	2607	14382						
111	0050 3	-0172	32300	786	2601	14383						
111	0075	-0174	32390	793	2608	14388						
111	0100	-0170	32410	791	2610	14394						
111	0150	0122	33240	542	2664	14549						
111	0200	0332	33898	352	2700	14658						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32360		2606	14377	0000	00000	1963
0010	-0173	32410		2610	14378	0020	00001	1923
0020	-0174	3240 C		2609	14379	0039	00004	1927
0030	-0174	32380		2607	14380	0058	00009	1944
0050	-0172	32300		2601	14383	0098	00025	2004
0075	-0174	32390		2608	14388	0148	00057	1933
0100	-0170	32410		2610	14394	0196	00101	1916
0125	-0043 I	3277 I		2635	14463	0241	00152	1679
0150	0122	33240		2664	14549	0280	00207	1409
0175	0180 I	3344 I		2676	14581	0314	00264	1300
0200	0332	33898		2700	14658	0345	00321	1081

C-REF-NO 345 YR 1962 DEPTH 260 WAVES 1 XX AIR T -15.4 VIS 99
 CONS. NO 056 MONTH 2 MXSAMPD 02 WAVE9 2 XX WET B -15.9 STN 056
 LAT 49-360N DAY 15 NO.DPTH 11 WND-DIR 040 WW-CODE 02
 LON 61-518W HR 13.6 W-COLOR WND-SPD 10 CLD-TPE 2
 MARSD SQ 151 W-TRNSP BARO 1032. CLD-AMT 2 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
136	0000	-0170	32090	818	2584	14373					
136	0010 3	-0173	32270	818	2598	14376					
136	0020	-0173	32180	818	2591	14376					
136	0030	-0173	32230	818	2595	14378					
136	0040	-0174	32250	815	2597	14380					
136	0050	-0174	32300	813	2601	14382					
136	0075	-0162	32300	813	2601	14392					
136	0100	-0131	32500	813	2616	14414					
136	0150	0218	33570	458	2684	14596					
136	0200	0322	33904	345	2701	14654					
136	0250	0409	34209	281	2717	14703					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32090		2584	14373	0000	00000	2171
0010	-0173	32270		2598	14376	0021	00001	2031
0020	-0173	32180		2591	14376	0042	00004	2099
0030	-0173	32230		2595	14378	0063	00010	2060
0050	-0174	32300		2601	14382	0104	00026	2004
0075	-0162	32300		2601	14392	0154	00059	2004
0100	-0131	32500		2616	14414	0203	00102	1857
0125	0035 I	3303 I		2652	14502	0245	00151	1521
0150	0218	33570		2684	14596	0280	00199	1228
0175	0286 E	3379 I		2695	14632	0310	00248	1124
0200	0322	33904		2701	14654	0337	00301	1068
0225	0401 H	3416 I		2714	14695	0363	00357	0952
0250	0409	34209		2717	14703	0386	00415	0928

C-REF-NO 345 YR 1962 DEPTH 241 WAVES 1 X1 AIR T -11.9 VIS 98
 CONS. NO 057 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -12.6 STN 057
 LAT 49-465N DAY 15 NO.DPTH 14 WND-DIR 040 WW-CODE 02
 LON 61-108W HR 17.6 W-COLOR WND-SPD 12 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1027. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
176	0000	3 -0170	32480	813	2615	14378						
176	0010	-0172	32360	815	2606	14377						
176	0019	-0174	32360	823	2606	14378						
176	0029	-0174	32360	823	2606	14380						
176	0039	-0174	32360	815	2606	14381						
176	0049	-0172	32360	808	2606	14384						
176	0073	-0174	32360	805	2606	14387						
176	0098	-0171	32360	804	2606	14392						
176	0123	0046	32970	606	2647	14506						
176	0147	0180	33420	488	2674	14576						
176	0171	0294	33770	399	2693	14635						
176	0196	0410	34162	286	2713	14694						
176	0221	0459	34407	276	2727	14722						
176	0235	0474	34522	281	2735	14732						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32480		2615	14378	0000	00000	1871
0010	-0172	32360		2606	14377	0019	00001	1962
0020	-0174	32360		2606	14378	0039	00004	1961
0030	-0174	32360		2606	14380	0059	00009	1960
0050	-0172	32360		2606	14384	0098	00025	1958
0075	-0178 B	3235 C		2605	14385	0148	00057	1964
0100	-0156 B	3240 C		2609	14400	0197	00101	1927
0125	0059	33012		2649	14513	0240	00151	1544
0150	0195	33466		2677	14584	0276	00201	1289
0175	0315	3384 B		2697	14645	0306	00251	1110
0200	0421	34208		2716	14700	0332	00300	0937
0225	0468	3445 B		2730	14727	0354	00348	0808

C-REF-NO 345 YR 1962 DEPTH 152 WAVES 1 X1 AIR T -01.9 VIS 99
 CONS. NO 058 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -03.9 STN 058
 LAT 49-535N DAY 16 NO.DPTH 10 WND-DIR 320 WW-CODE 02
 LON 60-340W HR 19.8 W-COLOR WND-SPD 12 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1012. CLD-AMT 0 HW

OBSERVED

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
198	0000	-0170	32250	825	2597	14375						
198	0010	-0172	32250	831	2597	14376						
198	0020	-0174	32250	823	2597	14377						
198	0030	-0174	32250	835	2597	14378						
198	0040 5	-0175	32250	853	2597	14379						
198	0050	-0174	32290	823	2600	14382						
198	0075	-0174	32290	813	2600	14386						
198	0100	-0168	32360	793	2605	14394						
198	0125	-0172	32570	724	2623	14399						
198	0140	0052	33010	624	2650	14512						

INTERPOLATED

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32250		2597	14375	0000	00000	2048
0010	-0172	32250		2597	14376	0021	00001	2047
0020	-0174	32250		2597	14377	0041	00004	2045
0030	-0174	32250		2597	14378	0062	00010	2044
0050	-0174	32290		2600	14382	0103	00026	2012
0075	-0174	32290		2600	14386	0153	00059	2009
0100	-0168	32360		2605	14394	0203	00103	1955
0125	-0172	32570		2623	14399	0250	00158	1790

C-REF-NO 345 YR 1962 DEPTH 99 WAVES 1 33X1 AIR T -03.3 VIS 99
 CONS. NO 059 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -05.8 STN 059
 LAT 50-060N DAY 16 NO.DPTH 8 WND-DIR 330 WW-CODE 02
 LON 59-560W HR 22.5 W-COLOR WND-SPD 08 CLD-TPE 4
 MARSD SQ 186 W-TRNSP BARO 1013. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
225	0000	-0168	31890	833	2567	14371					
225	0010	-0171	32090	833	2584	14374					
225	0020	-0171	32160	833	2589	14377					
225	0030	-0170		833							
225	0040	-0170	32160	843	2589	14381					
225	0050 3	-0170	32090	833	2584	14381					
225	0075	-0146	32230	803	2594	14399					
225	0095	-0142	32250	784	2596	14404					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0168	31890		2567	14371	0000	00000	2325
0010	-0171	32090		2584	14374	0023	00001	2170
0020	-0171	32160		2589	14377	0044	00004	2115
0030	-0170	32183		2591	14379	0065	00010	2096
0050	-0170	32090		2584	14381	0108	00028	2166
0075	-0146	32230		2594	14399	0161	00061	2062

C-REF-NO 345 YR 1962 DEPTH 186 WAVES 1 XX AIR T -06.0 VIS 98
 CONS. NO 060 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -06.8 STN 060
 LAT 49-564N DAY 17 NO.DPTH 11 WND-DIR 010 WW-CODE 02
 LON 59-312W HR 00.9 W-COLOR WND-SPD 06 CLD-TPE 4
 MARSD SQ 150 W-TRNSP BARO 1015. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
009	0000	-0160	32090	839	2583	14378					
009	0010	-0170	32090	835	2584	14375					
009	0020	-0171	32010	844	2577	14375					
009	0030	-0170	32030	823	2579	14377					
009	0040	-0172	32090	824	2584	14379					
009	0050	-0171	32090	833	2584	14381					
009	0075	-0167	32200		2593	14388					
009	0100	-0086	32480	749	2613	14435					
009	0125	-0017	32680	680	2627	14473					
009	0150	0070	32990	606	2647	14522					
009	0175	0319	33860	355	2698	14648					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	32090		2583	14378	0000	00000	2173
0010	-0170	32090		2584	14375	0022	00001	2170
0020	-0171	32010		2577	14375	0044	00005	2231
0030	-0170	32030		2579	14377	0066	00010	2214
0050	-0171	32090		2584	14381	0110	00028	2166
0075	-0167	32200		2593	14388	0164	00062	2080
0100	-0086	32480		2613	14435	0214	00107	1886
0125	-0017	32680		2627	14473	0260	00160	1759
0150	0070	32990		2647	14522	0302	00219	1567
0175	0319	33860		2698	14648	0335	00274	1096

C-REF-NO 345 YR 1962 DEPTH 122 WAVES 1 XX AIR T -05.9 VIS 98
 CONS. NO 061 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -06.9 STN 061
 LAT 49-495N DAY 17 NO.DPTH 9 WND-DIR 360 WW-CODE 02
 LON 59-554W HR 03.3 W-COLOR WND-SPD 08 CLD-TPE 4
 MARSD SQ 150 W-TRNSP BARO 1015. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SID	PH
033	0000	-0170	32030	828	2579	14372					
033	0010	-0171	31980	843	2575	14373					
033	0020	-0171	32010	838	2577	14375					
033	0030	-0171	32010	833	2577	14376					
033	0040	-0171	32010	843	2577	14378					
033	0050	-0170	32050	838	2580	14381					
033	0075	-0146	32270	805	2598	14399					
033	0100	-0108	32360	776	2604	14423					
033	0115	-0046	32610	710	2622	14457					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32030		2579	14372	0000	00000	2217
0010	-0171	31980		2575	14373	0023	00001	2255
0020	-0171	32010		2577	14375	0045	00005	2231
0030	-0171	32010		2577	14376	0068	00010	2230
0050	-0170	32050		2580	14381	0112	00029	2197
0075	-0146	32270		2598	14399	0165	00062	2031
0100	-0108	32360		2604	14423	0216	00108	1971

C-REF-NO 345 YR 1962 DEPTH 157 WAVES 1 X1 AIR T -07.1 VIS 98
 CONS. NO 062 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -07.8 STN 062
 LAT 49-320N DAY 17 NO.DPTH 10 WND-DIR 020 WW-CODE 02
 LON 59-570W HR 05.5 W-COLOR WND-SPD 04 CLD-TPE 5
 MARSD SQ 150 W-TRNSP BARO 1016. CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
055	0000	-0172	32250	834	2597	14374					
055	0010	-0175	32270	833	2598	14375					
055	0020	-0175	32270	831	2598	14376					
055	0030	-0176	32270	832	2598	14378					
055	0040	-0174	32270	838	2598	14380					
055	0050	-0172	32270	823	2598	14383					
055	0075	-0175	32360	818	2606	14387					
055	0100	-0111	32480	764	2614	14423					
055	0125	0034	32860	594	2639	14499					
055	0145	0100	33130	567	2657	14536					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0172	32250		2597	14374	0000	00000	2048
0010	-0175	32270		2598	14375	0021	00001	2031
0020	-0175	32270		2598	14376	0041	00004	2030
0030	-0176	32270		2598	14378	0061	00009	2029
0050	-0172	32270		2598	14383	0102	00026	2028
0075	-0175	32360		2606	14387	0152	00058	1955
0100	-0111	32480		2614	14423	0201	00101	1878
0125	0034	32860		2639	14499	0245	00152	1646

C-REF-NO 345 YR 1962 DEPTH 262 WAVES 1 X1 AIR T -08.3 VIS 98
 CONS. NO 063 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -08.6 STN 063
 LAT 49-150N DAY 17 NO.DPTH 14 WND-DIR 040 WW-CODE 03
 LON 59-570W HR 08.5 W-COLOR WND-SPD 04 CLD-TPE 5
 MARSD SQ 150 W-TRNSP BARO 1017. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
085	0000	-0180	32250	828	2597	14370						
085	0010	-0174	32250	843	2597	14375						
085	0020	-0174	32200	838	2593	14376						
085	0030	-0174	32230	838	2595	14378						
085	0040 5	-0174	32230	872	2595	14380						
085	0050	-0174	32230	848	2595	14381						
085	0075	-0174	32230	833	2595	14385						
085	0100	-0066	32540	744	2617	14445						
085	0125 5	0095	33080	744	2653	14530						
085	0150	0218	33570	498	2684	14596						
085	0175	0335	33840	419	2695	14654						
085	0200	0425	34238	355	2718	14702						
085	0225	0467	34464	340	2731	14726						
085	0250	0477	34565	330	2738	14736						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0180	32250		2597	14370	0000	00000	2046
0010	-0174	32250		2597	14375	0021	00001	2046
0020	-0174	32200		2593	14376	0041	00004	2084
0030	-0174	32230		2595	14378	0062	00010	2060
0050	-0174	32230		2595	14381	0104	00027	2058
0075	-0174	32230		2595	14385	0155	00060	2056
0100	-0066	32540		2617	14445	0205	00104	1847
0125	0095	33080		2653	14530	0247	00152	1513
0150	0218	33570		2684	14596	0281	00200	1228
0175	0335	33840		2695	14654	0311	00250	1126
0200	0425	34238		2718	14702	0337	00299	0919
0225	0467	34464		2731	14726	0359	00346	0798
0250	0477	34565		2738	14736	0378	00393	0736

C-REF-NO 345 YR 1962 DEPTH 313 WAVES 1 XX AIR T -09.6 VIS 99
 CONS. NO 064 MONTH 2 MXSAMPD 03 WAVES 2 XX WET B -09.9 STN 064
 LAT 48-595N DAY 17 NO.DPTH 15 WND-DIR 080 WW-CODE 03
 LON 59-525W HR 12.3 W-COLOR WND-SPD 01 CLD-TPE 5
 MARSD SQ 150 W-TRNSP BARO 1017. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
123	0000	-0170	32160	857	2589	14374					
123	0010	-0170	32160	843	2589	14376					
123	0020	-0172	32160	857	2589	14376					
123	0030	-0172	32160	843	2589	14378					
123	0040	-0175	32160	843	2589	14378					
123	0050	-0173	32160	853	2589	14381					
123	0075	-0171	32290	841	2600	14388					
123	0100	0012	32810	680	2636	14484					
123	0125	0076	33060	649	2652	14521					
123	0150	0212	33490	490	2678	14592					
123	0175	0336	33930	378	2702	14656					
123	0200	0414	34166	351	2713	14696					
123	0225	0460	34368	351	2724	14722					
123	0250 5	0477	34524	389	2735	14735					
123	0300 5	0481	34651	349	2744	14747					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32160		2589	14374	0000	00000	2117
0010	-0170	32160		2589	14376	0021	00001	2116
0020	-0172	32160		2589	14376	0043	00004	2115
0030	-0172	32160		2589	14378	0064	00010	2114
0050	-0173	32160		2589	14381	0106	00027	2112
0075	-0171	32290		2600	14388	0158	00060	2010
0100	0012	32810		2636	14484	0205	00101	1674
0125	0076	33060		2652	14521	0245	00148	1517
0150	0212	33490		2678	14592	0280	00197	1284
0175	0336	33930		2702	14656	0310	00246	1059
0200	0414	34166		2713	14696	0335	00295	0961
0225	0460	34368		2724	14722	0358	00345	0862
0250	0477	34524		2735	14735	0379	00395	0767
0300	0481	34651		2744	14747	0415	00497	0682

C-REF-NO 345 YR 1962 DEPTH 309 WAVES 1 XX AIR T -06.5 VIS 99
 CONS. NO 065 MONTH 2 MXSAMPD 03 WAVES 2 XX WET B -07.0 STN 065
 LAT 48-410N DAY 17 NO.DPTH 15 WND-DIR 070 WW-CODE 02
 LON 59-520W HR 16.0 W-COLOR WND-SPD 04 CLD-TPE 4
 MARSD SQ 150 W-TRNSP BARO 1017. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
160	0000	-0170	32000	833	2576	14372						
160	0010	-0173	32000	848	2576	14372						
160	0020	-0175	32000	848	2576	14373						
160	0030	-0176	32000	848	2576	14374						
160	0040	-0175	32000	848	2576	14376						
160	0050	-0172	32070	853	2582	14380						
160	0075	-0168	32320	650	2602	14390						
160	0100	0031	32880	578	2640	14494						
160	0125	0107	33150	527	2658	14536						
160	0150	0224	33550	522	2681	14598						
160	0175	0340	33860	517	2696	14657						
160	0200	0415	34136	463	2711	14696						
160	0225	0446	34254	453	2717	14715						
160	0250	0462	34354	448	2723	14727						
160	0275	0469	34482	414	2732	14736						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32000		2576	14372	0000	00000	2240
0010	-0173	32000		2576	14372	0023	00001	2239
0020	-0175	32000		2576	14373	0045	00005	2238
0030	-0176	32000		2576	14374	0068	00010	2236
0050	-0172	32070		2582	14380	0112	00029	2181
0075	-0168	32320		2602	14390	0165	00062	1988
0100	0031	32880		2640	14494	0210	00102	1630
0125	0107	33150		2658	14536	0249	00147	1468
0150	0224	33550		2681	14598	0283	00195	1248
0175	0340	33860		2696	14657	0313	00244	1116
0200	0415	34136		2711	14696	0340	00295	0985
0225	0446	34254		2717	14715	0364	00348	0932
0250	0462	34354		2723	14727	0387	00403	0877

C-REF-NO 345 YR 1962 DEPTH 314 WAVES 1 X1 AIR T -03.3 VIS 99
 CONS. NO 066 MONTH 2 MXSAMPD 03 WAVES 2 XX WET B -04.2 STN 066
 LAT 48-247N DAY 17 NO.DPTH 15 WND-DIR 140 WW-CODE 02
 LON 59-520W HR 19.1 W-COLOR WND-SPD 04 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1014. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
191	0000	-0174	32140	835	2588	14372					
191	0010	-0174	32140	843	2588	14373					
191	0020	-0176	32180	833	2591	14375					
191	0030	-0176	32180	892	2591	14376					
191	0040	-0176	32180	833	2591	14378					
191	0050	-0175	32180	838	2591	14380					
191	0075	-0172	32250	823	2597	14387					
191	0100	-0138	32360	793	2605	14408					
191	0125	0021	32920	626	2644	14494					
191	0150	0162	33310	547	2667	14567					
191	0175	0284	33730	458	2691	14631					
191	0200	0406	34134	360	2711	14692					
191	0225	0452	34324	414	2722	14718					
191	0250	0459	34430	419	2729	14727					
191	0300	0483	34618	429	2741	14747					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0174	32140		2588	14372	0000	00000	2132
0010	-0174	32140		2588	14373	0021	00001	2131
0020	-0176	32180		2591	14375	0043	00004	2099
0030	-0176	32180		2591	14376	0064	00010	2098
0050	-0175	32180		2591	14380	0106	00027	2096
0075	-0172	32250		2597	14387	0158	00060	2041
0100	-0138	32360		2605	14408	0209	00106	1962
0125	0021	32920		2644	14494	0253	00157	1594
0150	0162	33310		2667	14567	0291	00209	1383
0175	0284	33730		2691	14631	0323	00262	1163
0200	0406	34134		2711	14692	0350	00314	0977
0225	0452	34324		2722	14718	0373	00365	0886
0250	0459	34430		2729	14727	0395	00417	0817
0300	0483	34618		2741	14747	0433	00525	0709

C-REF-NO 345 YR 1962 DEPTH 137 WAVES 1 XX AIR T -03.9 VIS 98
 CONS. NO 067 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -04.4 STN 067
 LAT 48-205N DAY 17 NO.DPTH 9 WND-DIR 120 WW-CODE 03
 LON 59-300W HR 22.3 W-COLOR WND-SPD 04 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1015. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
223	0000	-0170	32030	813	2579	14372						
223	0010	-0170	32030	839	2579	14374						
223	0020	-0172	32030	853	2579	14374						
223	0030	-0171	31980	844	2575	14376						
223	0040	-0170	32030	846	2579	14379						
223	0050 5	-0162	32030	794	2579	14384						
223	0075	-0074	32340	785	2601	14434						
223	0100	0031	32700	693	2626	14492						
223	0125	0125	33100	631	2653	14544						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	32030		2579	14372	0000	00000	2217
0010	-0170	32030		2579	14374	0022	00001	2216
0020	-0172	32030		2579	14374	0045	00005	2215
0030	-0171	31980		2575	14376	0067	00010	2253
0050	-0162	32030		2579	14384	0112	00029	2214
0075	-0074	32340		2601	14434	0165	00062	1999
0100	0031	32700		2626	14492	0212	00105	1767
0125	0125	33100		2653	14544	0254	00152	1517

C-REF-NO 345	YR 1962	DEPTH 329	WAVES 1	XX	AIR T -03.1	VIS 96
CONS. NO 068	MONTH 2	MXSAMPD 03	WAVES 2	XX	WET B -03.1	STN 068
LAT 48-080N	DAY 18	NO.DPTH 15	WND-DIR 080		WW-CODE 73	
LON 59-500W	HR 01.2	W-COLOR	WND-SPD 05		CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1013.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
012	0000	3 -0170	31710		2553	14368					
012	0010	-0172	31890	841	2567	14371					
012	0020	-0174	31940		2572	14372					
012	0030	-0173	31940		2572	14374					
012	0040	-0174	31940		2572	14376					
012	0050	-0168	32000	834	2576	14381					
012	0074	-0048	32160	774	2586	14443					
012	0099	0043	32480		2608	14494					
012	0124	0042	32830	674	2636	14502					
012	0149	0078	33120		2657	14527					
012	0173	0164	33400	579	2674	14573					
012	0198	0314	33774		2692	14648					
012	0223	0404	34138		2712	14695					
012	0248	0472	34460	417	2730	14732					
012	0297	0482	34563	417	2737	14746					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31710		2553	14368	0000	00000	2464
0010	-0172	31890		2567	14371	0024	00001	2324
0020	-0174	31940		2572	14372	0047	00005	2284
0030	-0173	31940		2572	14374	0070	00011	2283
0050	-0168	32000		2576	14381	0116	00029	2236
0075	-0043	32171		2587	14446	0171	00064	2139
0100	0043	32494		2609	14494	0222	00110	1930
0125	0043	32842		2637	14503	0267	00162	1664
0150	0081	33131		2658	14528	0307	00217	1466
0175	0176	33429		2675	14579	0342	00275	1304
0200	0323	33804		2693	14652	0372	00334	1143
0225	0411	34168		2714	14699	0399	00392	0959
0250	0470 B	3444 H		2729	14731	0421	00446	0821
0300	0479	34555		2737	14745	0461	00558	0750

C-REF-NO 345 YR 1962 DEPTH 490 WAVES 1 XX AIR T -02.3 VIS 95
 CONS. NO 069 MONTH 2 MXSAMPD 05 WAVES 2 XX WET B -02.3 STN 069
 LAT 47-561N DAY 18 NO.DPTH 17 WND-DIR 120 WW-CODE 73
 LON 60-070W HR 03.3 W-COLOR WND-SPD 10 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1009. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
033	0000	-0165	31730		2554	14370						
033	0010	-0167	31760	860	2557	14371						
033	0020	-0167	31780		2558	14373						
033	0030	-0168	31780		2559	14374						
033	0040	-0167	31780		2558	14377						
033	0050	-0166	31780	842	2558	14379						
033	0074	-0010	32230	745	2590	14462						
033	0099	0041	32790		2633	14497						
033	0123	0076	33120	631	2657	14522						
033	0148	0143	33350		2671	14559						
033	0173	0324	33780	508	2691	14648						
033	0197	0385	34036		2706	14682						
033	0222	0446	34290		2719	14715						
033	0246	0477	34442	428	2728	14734						
033	0294	0486	34654		2744	14748						
033	0390	0464	34818	429	2759	14757						
033	0465	0461	34835	461	2761	14768						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0165	31730		2554	14370	0000	00000	2449
0010	-0167	31760		2557	14371	0025	00001	2425
0020	-0167	31780		2558	14373	0049	00005	2408
0030	-0168	31780		2559	14374	0073	00011	2407
0050	-0166	31780		2558	14379	0121	00031	2406
0075	-0007	32254		2592	14464	0178	00067	2091
0100	0042	32807		2634	14498	0226	00109	1692
0125	0079	3314 B		2658	14523	0265	00154	1461
0150	0158 B	3338 B		2673	14566	0300	00204	1324
0175	0331	33804		2693	14652	0332	00255	1149
0200	0393	34069		2708	14686	0359	00308	1012
0225	0451	34312		2721	14718	0383	00360	0893
0250	0479	34464		2730	14736	0404	00412	0814
0300	0485	34672		2745	14749	0442	00517	0671
0400	0472 C	3485 E		2761	14763	0503	00733	0535

C-REF-NO 345 YR 1962 DEPTH 430 WAVES 1 X1 AIR T -00.8 VIS 91
 CONS. NO 070 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -00.8 STN 070
 LAT 47-435N DAY 18 NO.DPTH 11 WND-DIR 060 WW-CODE 75
 LON 60-250W HR 06.0 W-COLOR WND-SPD 11 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1004. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
060	0000	-0170	31870		2566	14370						
060	0010	-0172	31940	853	2572	14372	070				004	
060	0020	-0172	31980		2575	14374	065				005	
060	0029	-0173	31980		2575	14375	070				005	
060	0039	-0173	31980		2575	14376	090				005	
060	0049	-0172	31980	843	2575	14379	080				005	
060	0074	-0172	31980	823	2575	14383	080				004	
060	0098	-0116	32230		2594	14417	090				006	
060	0123	0043	32840	655	2637	14503	115				009	
060	0147	0180	33400		2673	14576	135				012	
060	0172	0312	33820	473	2696	14643	140				017	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31870		2566	14370	0000	00000	2340
0010	-0172	31940		2572	14372	0023	00001	2285
0020	-0172	31980		2575	14374	0046	00005	2253
0030	-0173	31980		2575	14375	0069	00010	2252
0050	-0173	31977		2575	14378	0114	00029	2252
0075	-0171	31985		2575	14383	0171	00065	2245
0100	-0105	3227 B		2597	14423	0225	00113	2038
0125	0055	32890		2640	14509	0271	00166	1635
0150	0197	3344 E		2674	14585	0308	00218	1314

C-REF-NO 345	YR 1962	DEPTH 351	WAVES 1 X1	AIR T -00.9	VIS 92
CONS. NO 071	MONTH 2	MXSAMPD 03	WAVES 2 XX	WET B -00.9	STN 071
LAT 47-422N	DAY 18	NO.DPTH 2	WND-DIR 060	WW-CODE 75	
LON 60-266W	HR 07.0	W-COLOR	WND-SPD 11	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1003.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
070	0000	-0168	32010	833	2577	14373					
070	0340	0478	34729	404	2751	14753					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0168	32010		2577	14373	0000	00000	2233

C-REF-NO 345	YR 1962	DEPTH 335	WAVES 1 X1	AIR T -01.1	VIS 91
CONS. NO 072	MONTH 2	MXSAMPD 03	WAVES 2 XX	WET B -01.1	STN 072
LAT 47-410N	DAY 18	NO.DPTH 2	WND-DIR 120	WW-CODE 75	
LON 60-283W	HR 07.8	W-COLOR	WND-SPD 11	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1002.	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
078	0000	-0169	31910	833	2569	14371					
078	0320	0481	34685	409	2747	14751					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0169	31910		2569	14371	0000	00000	2310

C-REF-NO 345	YR 1962	DEPTH 313	WAVES 1 XX	AIR T -03.3	VIS 91
CONS. NO 073	MONTH 2	MXSAMPD 03	WAVES 2 XX	WET B -03.3	STN 073
LAT 47-403N	DAY 18	NO.DPTH 2	WNO-DIR 120	WW-CODE 75	
LON 60-295W	HR 08.8	W-COLOR	WNO-SPD 09	CLD-TPE	
MARSD SQ 151		W-TRNSP	BARO 1002.	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
088	0000	-0170	31920	835	2570	14371					
088	0299	0482	34647	389	2744	14747					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31920		2570	14371	0000	00000	2302

C-REF-NO 345 YR 1962 DEPTH 267 WAVES 1 XX AIR T -03.3 VIS 91
 CONS. NO 074 MONTH 2 MXSAMPD 02 WAVES 2 42 WET B -03.3 STN 074
 LAT 47-390N DAY 18 NO.DPTH 14 WND-DIR 010 WW-CODE 75
 LON 60-313W HR 09.8 W-COLOR WND-SPD 12 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1001. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
098	0000	-0173	31910		2569	14369	080			004	
098	0010	-0170	31910	840	2569	14372	080			004	
098	0019	-0173	31910		2569	14372	070			004	
098	0029	-0174	31920		2570	14373	080			004	
098	0038	-0174	31920		2570	14375	070			004	
098	0048	-0173	31940	829	2572	14377	080			003	
098	0072	-0172	31940	843	2572	14382	080			004	
098	0096	-0054	32380		2604	14447	095			009	
098	0120	0076	32970	626	2645	14519	135			012	
098	0144	0120	33060		2650	14544	130			012	
098	0168	0263	33640	500	2685	14619	140			016	
098	0192	0362	33996		2705	14671	150			016	
098	0217	0450	34296		2720	14716	165			020	
098	0241	0457	34376	506	2725	14724	160			021	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0173	31910		2569	14369	0000	00000	2309
0010	-0170	31910		2569	14372	0023	00001	2309
0020	-0173	31911		2569	14372	0046	00005	2306
0030	-0174	31920		2570	14374	0070	00011	2298
0050	-0175	3193 B		2571	14377	0116	00030	2286
0075	-0161	3198 B		2574	14388	0173	00066	2251
0100	-0030	3249 E		2612	14461	0225	00113	1899
0125	0085 C	3299 I		2646	14524	0269	00162	1576
0150	0153 B	3319 G		2658	14562	0307	00216	1466
0175	0295	3376 B		2692	14636	0340	00271	1151
0200	0395	3411 B		2710	14688	0367	00322	0986
0225	0450 C	3432 D		2722	14717	0391	00374	0885

C-REF-NO 345	YR 1962	DEPTH 181	WAVES 1	XX	AIR T -02.7	VIS 91
CONS. NO 075	MONTH 2	MXSAMPD 02	WAVES 2	42	WET B -02.7	STN 075
LAT 47-381N	DAY 18	NO.DPTH 2	WND-DIR 360		WW-CODE 75	
LON 60-327W	HR 11.6	W-COLOR	WND-SPD 11		CLO-TPE	
MARSD SQ 151		W-TRNSP	BARO 1000.		CLO-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
116	0000	-0171	31940	835	2572	14370					
116	0163	0256	33640	492	2686	14615					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0171	31940		2572	14370	0000	00000	2286

C-REF-NO 345 YR 1962 DEPTH 113 WAVES 1 XX AIR T -03.7 VIS 92
 CONS. NO 076 MONTH 2 MXSAMPD 01 WAVES 2 42 WET B -03.7 STN 076
 LAT 47-371N DAY 18 NO.DPTH 2 WND-DIR 350 WW-CODE 75
 LON 60-340W HR 12.7 W-COLOR WND-SPD 15 CLD-TPE
 MARSD SQ 151 W-TRNSP BARO 1000. CLD-AMT 9 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
127	0000	-0173	31940	834	2572	14369					
127	0102	-0096	32180	770	2589	14426					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0173	31940		2572	14369	0000	00000	2286

C-REF-NO 345	YR 1962	DEPTH	79	WAVES 1	XX	AIR T -04.0	VIS 94
CONS. NO 077	MONTH 2	MXSAMPD	01	WAVES 2	42	WET B -04.1	STN 077
LAT 47-360N	DAY 18	NO.DPTH	2	WND-DIR	340	WW-CODE 71	
LON 60-355W	HR 13.5	W-COLOR		WND-SPD	16	CLD-TPE 9	
MARSD SQ 151		W-TRNSP		BARO 1000.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
135	0000	-0171	31940	838	2572	14370						
135	0065	-0171	31980	833	2575	14382						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0171	31940		2572	14370	0000	00000	2286

C-REF-NO 345 YR 1962 DEPTH 86 WAVES 1 XX AIR T -03.9 VIS 94
 CONS. NO 078 MONTH 2 MXSAMPD 01 WAVES 2 42 WET B -04.1 STN 078
 LAT 47-350N DAY 18 NO.DPTH 7 WND-DIR 340 WW-CODE 71
 LON 60-370W HR 14.1 W-COLOR WND-SPD 16 CLD-TPE 9
 MARSD SQ 151 W-TRNSP BARO 1001. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
141	0000 4	-0160	31730		2554	14373	145			007	
141	0010	-0173	31920	857	2570	14371	085			006	
141	0020	-0173	31920		2570	14372	095			006	
141	0030	-0174	31920		2570	14374	085			006	
141	0039	-0174	31920		2570	14375	080			005	
141	0049	-0172	31920	838	2570	14378	080			005	
141	0074	-0174	31920	838	2570	14381	085			005	

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31730		2554	14373	0000	00000	2450
0010	-0173	31920		2570	14371	0024	00001	2300
0020	-0173	31920		2570	14372	0047	00005	2299
0030	-0174	31920		2570	14374	0070	00011	2298
0050	-0173	31920		2570	14377	0116	00030	2297
0075	-0174	31920		2570	14381	0174	00067	2294

C-REF-NO 345 YR 1962 DEPTH 80 WAVES 1 31X1 AIR T -06.2 VIS 94
 CONS. NO 079 MONTH 2 MXSAMPD 01 WAVES 2 42 WET B -06.4 STN 079
 LAT 46-580N DAY 18 NO.DPTH 7 WND-DIR 310 WW-CODE 73
 LON 60-125W HR 19.5 W-COLOR WND-SPD 11 CLD-TPE 0
 MARSQ SQ 151 W-TRNSP BARO 1003. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
195	0000	-0165	31110		2504	14362					
195	0010	-0166	31200	853	2511	14364					
195	0020	-0166	31200		2511	14366					
195	0030	-0164	31200		2511	14368					
195	0040	-0158	31240		2515	14373					
195	0050	-0115	31600	808	2543	14400					
195	0075	-0119	31830	803	2561	14406					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0165	31110		2504	14362	0000	00000	2927
0010	-0166	31200		2511	14364	0029	00001	2856
0020	-0166	31200		2511	14366	0058	00006	2855
0030	-0164	31200		2511	14368	0087	00013	2854
0050	-0115	31600		2543	14400	0141	00035	2555
0075	-0119	31830		2561	14406	0203	00075	2376

C-REF-NO 345	YR 1962	DEPTH	93	WAVES 1 31X3	AIR T -06.7	VIS 93
CONS. NO 080	MONTH 2	MXSAMPD	01	WAVES 2 42	WET B -06.7	STN 080
LAT 46-594N	DAY 18	NO.DPTH	2	WND-DIR 310	WW-CODE 73	
LON 60-103W	HR 20.2	W-COLOR		WND-SPD 22	CLD-TPE 0	
MARSD SQ 151		W-TRNSP		BARO 1004.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
202	0000	-0166	31400	853	2528	14365					
202	0079	-0167	31910	838	2569	14385					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0166	31400		2528	14365	0000	00000	2703

C-REF-NO 345 YR 1962 DEPTH 174 WAVES 1 XX AIR T -06.7 VIS 92
 CONS. NO 081 MONTH 2 MXSAMPD 02 WAVES 2 42 WET B -06.8 STN 081
 LAT 47-012N DAY 18 NO.DPTH 10 WND-DIR 310 WW-CODE 73
 LON 60-077W HR 21.2 W-COLOR WND-SPD 25 CLD-TPE 0
 MARSD SQ 151 W-TRNSP BARO 1006. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
212	0002	-0174	31600	843	2544	14364						
212	0020	-0176	31600		2544	14367						
212	0030	-0169	31690		2551	14373						
212	0040	-0170	31730		2554	14374						
212	0050	-0158	31870	872	2566	14384						
212	0075	-0008										
212	0100		32500									
212	0125		32750	862								
212	0150			715								
212	0170 1	0260		537								

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	3160 B		2544	14366	0000	00000	2548
0010	-0174	3160 D		2544	14366	0026	00001	2543
0020	-0176	31600		2544	14367	0051	00005	2545
0030	-0169	31690		2551	14373	0076	00012	2476
0050	-0158	31870		2566	14384	0125	00031	2338
0075	-0008	3220 B		2588	14463	0181	00067	2129
0100	0021 I	32500		2610	14484	0232	00112	1915
0125	0104 I	32750		2626	14530	0278	00166	1770
0150	0190 I							
0175	0278 D							

C-REF-NO 345	YR 1962	DEPTH 220	WAVES 1 XX	AIR T -07.3	VIS 92
CONS. NO 082	MONTH 2	MXSAMPD 02	WAVES 2 42	WET B -07.8	STN 082
LAT 47-030N	DAY 18	NO.DPTH 2	WND-DIR 310	WW-CODE 73	
LON 60-055W	HR 23.0	W-COLOR	WND-SPD 21	CLD-TPE 0	
MARSD SQ 151		W-TRNSP	BARO 1008.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
230	0000	-0164	31580	862	2542	14369					
230	0200	0425	34210	478	2715	14701					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0164	31580		2542	14369	0000	00000	2565
0200	0425	34210		2715	14701	0353	00194	0940

C-REF-NO 345	YR 1962	DEPTH 278	WAVES 1	XX	AIR T -07.7	VIS 97
CONS. NO 083	MONTH 2	MXSAMPD 03	WAVES 2	42	WET B -07.8	STN 083
LAT 47-048N	DAY 18	NO.DPTH 2	WND-DIR 320	WW-CODE 01		
LON 60-026W	HR 23.8	W-COLOR	WND-SPD 25	CLD-TPE 0		
MARSD SQ 151		W-TRNSP	BARO 1009.	CLD-AMT 7	HW	

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
238	0000	-0169	31550	862	2540	14366					
238	0270	0484	34592	429	2739	14743					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0169	31550		2540	14366	0000	00000	2587

C-REF-NO 345	YR 1962	DEPTH 336	WAVES 1	XX	AIR T -07.5	VIS 98
CONS. NO 084	MONTH 2	MXSAMPD 03	WAVES 2	42	WET B -07.8	STN 084
LAT 47-067N	DAY 19	NO.DPTH 14	WND-DIR 320		WW-CODE 01	
LON 60-000W	HR 00.6	W-COLOR	WND-SPD 24		CLD-TPE 6	
MARSD SQ 151		W-TRNSP	BARO 1008.		CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
006	0000	3 -0165	29780	808	2397	14343					
006	0019	-0168	31470		2533	14368					
006	0029	-0163	31560		2541	14374					
006	0038	-0146	31650		2548	14384					
006	0048	-0110	31760	822	2556	14405					
006	0072	-0009	32230	744	2590	14462					
006	0094	0068	32750		2628	14508					
006	0117	0103	33040	655	2649	14532					
006	0140	0195	33280		2662	14580					
006	0163	0265	33570	537	2680	14618					
006	0186	0399	34055		2706	14686					
006	0209	0410	34154		2713	14696					
006	0231	0431	34226	468	2716	14709					
006	0275	0460	34406	419	2727	14731					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0165	29780		2397	14343	0000	00000	3953
0010	-0172	3075 I		2475	14355	0036	00002	3199
0020	-0168	3149 C		2535	14369	0065	00006	2631
0030	-0162	31570		2541	14374	0091	00013	2570
0050	-0102	31792		2558	14409	0142	00033	2412
0075	0003	3231 B		2595	14469	0198	00069	2056
0100	0077 B	3284 B		2635	14514	0245	00110	1685
0125	0133 B	3312 B		2654	14548	0285	00156	1504
0150	0223 B	3339 B		2669	14595	0321	00207	1367
0175	0339 D	3384 H		2694	14656	0353	00259	1133
0200	0412 C	3414 E		2711	14695	0379	00310	0979
0225	0425	34207		2715	14705	0404	00363	0944
0250	0441	3431 B		2722	14717	0427	00419	0887

C-REF-NO 345	YR 1962	DEPTH 459	WAVES 1 32X3	AIR T -07.1	VIS 97
CONS. NO 085	MONTH 2	MXSAMPD 04	WAVES 2 42	WET B -07.4	STN 085
LAT 47-160N	DAY 19	NO.DPTH 15	WND-DIR 320	WW-CODE 71	
LON 59-470W	HR 02.8	W-COLOR	WND-SPD 20	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1010.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
028	0000	-0165	31380	843	2526	14365					
028	0020	-0163	31400		2528	14370					
028	0030	-0165	31400		2528	14371					
028	0040	-0164	31400		2528	14373					
028	0050	-0036	31780	823	2555	14440					
028	0068	0033	32100	823	2578	14479					
028	0091	0101	32480		2604	14519					
028	0114	0055	33030	734	2651	14509					
028	0137	0232	33440		2672	14598					
028	0159	0321	33820	508	2695	14645					
028	0182	0421	34107		2708	14695					
028	0205	0476	34352		2721	14725					
028	0228	0483	34502	390	2732	14734					
028	0274	0487	34682		2746	14746					
028	0365	0476	34752	439	2753	14757					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0165	31380		2526	14365	0000	00000	2719
0010	-0165	31391		2527	14367	0027	00001	2709
0020	-0163	31400		2528	14370	0055	00006	2702
0030	-0165	31400		2528	14371	0082	00013	2700
0050	-0036	31780		2555	14440	0133	00034	2443
0075	0061 B	3221 C		2585	14494	0191	00070	2158
0100	0077 G	3269 D		2623	14512	0241	00114	1797
0125	0131 F	3324 B		2663	14548	0282	00160	1418
0150	0289 B	33671		2686	14628	0315	00207	1210
0175	0393	34028		2704	14681	0343	00254	1041
0200	0468	34305		2718	14721	0368	00301	0915
0225	0484	34486		2731	14733	0389	00348	0799
0250	0486	34604		2740	14740	0408	00395	0717
0300	0488	3476 C		2752	14751	0442	00488	0611

C-REF-NO 345 YR 1962 DEPTH 465 WAVES 1 X3 AIR T -06.1 VIS 93
 CONS. NO 086 MONTH 2 MXSAMPD 04 WAVES 2 82 WET B -06.7 STN 086
 LAT 47-245N DAY 19 NO.DPTH 17 WND-DIR 340 WW-CODE 73
 LON 59-350W HR 04.8 W-COLOR WND-SPD 20 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1012. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
048	0000	-0170	31460		2533	14364					
048	0010	-0173	31290	853	2519	14362					
048	0019	-0172	31290		2519	14364					
048	0029	-0173	31330		2522	14366					
048	0038	-0172	31330		2522	14368					
048	0048	-0018	32000	823	2572	14451					
048	0072	0007	32210	823	2588	14469					
048	0096	0080	32610		2616	14512					
048	0120	0036	33030	665	2652	14502					
048	0143	0119	33269		2667	14546					
048	0175	0286	33680	532	2687	14631					
048	0200	0416	34080		2706	14696					
048	0225	0456	34302		2719	14720					
048	0250	0484	34508	404	2733	14738					
048	0300	0477	34744		2752	14747					
048	0400	0460	34823	468	2760	14757					
048	0450	0456	34834	488	2762	14764					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0170	31460		2533	14364	0000	00000	2656
0010	-0173	31290		2519	14362	0027	00001	2786
0020	-0172	31294		2519	14364	0055	00006	2782
0030	-0176	3132 C		2521	14364	0083	00013	2763
0050	-0008 D	3205 I		2576	14457	0134	00033	2246
0075	0018 B	32254		2591	14475	0188	00068	2102
0100	0072 C	3269 B		2623	14510	0237	00111	1800
0125	0048 B	3309 B		2656	14509	0279	00159	1481
0150	0153	33350		2671	14564	0314	00209	1346
0175	0286	33680		2687	14631	0347	00262	1202
0200	0416	34080		2706	14696	0375	00316	1028
0225	0456	34302		2719	14720	0399	00369	0907
0250	0484	34508		2733	14738	0420	00421	0786
0300	0477	34744		2752	14747	0456	00519	0608
0400	0460	34823		2760	14757	0514	00726	0541

C-REF-NO 345 YR 1962 DEPTH 256 WAVES 1 X1 AIR T -07.5 VIS 93
 CONS. NO 087 MONTH 2 MXSAMPD 02 WAVES 2 XX WET B -07.5 STN 087
 LAT 47-350N DAY 19 NO.DPTH 14 WND-DIR 320 WW-CODE 75
 LON 59-210W HR 07.0 W-COLOR WND-SPD 16 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1014. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
070	0000	-0160	31650		2548	14372					
070	0009 3	-0164	31460	843	2533	14368					
070	0018	-0161	31740		2555	14375					
070	0027 3	-0135	31850		2563	14391					
070	0036 3	-0066	31760		2554	14423					
070	0045	-0017	31980	803	2570	14451					
070	0067	0044	32300	744	2593	14487					
070	0090	0052	32660		2622	14499					
070	0112	0034	32920	680	2643	14498					
070	0134	0041	33010		2650	14506					
070	0157	0148	33260	596	2664	14562					
070	0179	0286	33579		2679	14630					
070	0202	0413	33983		2699	14694					
070	0224	0454	34289	463	2719	14718					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0160	31650		2548	14372	0000	00000	2512
0010	-0164	3148 D		2534	14369	0026	00001	2638
0020	-0158	31780		2558	14378	0051	00005	2410
0030	-0113	3181 F		2560	14401	0075	00011	2393
0050	0003	3207 C		2576	14462	0122	00030	2240
0075	0052	3243 B		2603	14493	0175	00064	1985
0100	0044	32794		2633	14499	0222	00105	1702
0125	0031 B	3298 D		2648	14500	0263	00152	1558
0150	0108	33171		2659	14541	0301	00206	1452
0175	0260	33516		2676	14617	0335	00263	1304
0200	0404	33948		2697	14689	0366	00322	1114
0225	0455	34304		2720	14719	0391	00377	0904

C-REF-NO 345 YR 1962 DEPTH 190 WAVES 1 32X2 AIR T -08.6 VIS 98
 CONS. NO 088 MONTH 2 MXSAMPD 02 WAVES 2 42 WET B -09.2 STN 088
 LAT 47-260N DAY 19 NO.DPTH 11 WND-DIR 320 WW-CODE 01
 LON 58-300W HR 12.2 W-COLOR WND-SPD 16 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1016. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
122	0000	3 -0038	32410		2606	14439						
122	0010	-0037	32140	809	2584	14438						
122	0020	-0037	32180		2587	14440						
122	0030	-0039	32180		2587	14441						
122	0040	-0037	32180		2587	14443						
122	0050	-0036	32180	813	2587	14445						
122	0075	-0028	32210	811	2589	14454						
122	0100	0044	32410		2602	14494						
122	0125	0072	32810	684	2633	14516						
122	0150	0116	33100		2653	14544						
122	0175	0174	33400	574	2673	14578						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0038	32410		2606	14439	0000	00000	1962
0010	-0037	32140		2584	14438	0021	00001	2169
0020	-0037	32180		2587	14440	0042	00004	2138
0030	-0039	32180		2587	14441	0064	00010	2136
0050	-0036	32180		2587	14445	0107	00028	2136
0075	-0028	32210		2589	14454	0160	00062	2115
0100	0044	32410		2602	14494	0212	00108	1995
0125	0072	32810		2633	14516	0259	00161	1705
0150	0116	33100		2653	14544	0299	00218	1511
0175	0174	33400		2673	14578	0335	00278	1324

C-REF-NO 345 YR 1962 DEPTH 216 WAVES 1 32X4 AIR T -06.5 VIS 98
 CONS. NO 089 MONTH 2 MXSAMPD 02 WAVES 2 42 WET B -07.4 STN 089
 LAT 47-230N DAY 19 NO.DPTH 11 WND-DIR 320 WW-CODE 01
 LON 57-305W HR 15.9 W-COLOR WND-SPD 18 CLD-TPE 1
 MARSD SQ 150 W-TRNSP BARO 1017. CLD-AMT 4 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4	-P-	NO2	NO3	SIO	PH
159	0000	3 -0030	32450		2609	14444						
159	0010	-0028	32120	824	2582	14442						
159	0020	-0028	32180		2587	14444						
159	0030	-0030	32180		2587	14445						
159	0050	-0027	32200	813	2588	14450						
159	0075	-0010	32200	807	2588	14462						
159	0100	0062	32770		2630	14507						
159	0125	0094	33080	646	2653	14530						
159	0150	0291	33770		2693	14630						
159	0175	0364	33980	486	2703	14668						
159	0200	0387	34106	468	2711	14684						

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0030	32450		2609	14444	0000	00000	1935
0010	-0028	32120		2582	14442	0021	00001	2188
0020	-0028	32180		2587	14444	0043	00004	2141
0030	-0030	32180		2587	14445	0064	00010	2140
0050	-0027	32200		2588	14450	0107	00028	2125
0075	-0010	32200		2588	14462	0161	00062	2131
0100	0062	32770		2630	14507	0209	00105	1730
0125	0094	33080		2653	14530	0250	00152	1513
0150	0291	33770		2693	14630	0283	00198	1137
0175	0364	33980		2703	14668	0311	00244	1048
0200	0387	34106		2711	14684	0336	00293	0979

C-REF-NO 345	YR 1962	DEPTH	73	WAVES 1 14X3	AIR T -03.3	VIS 98
CONS. NO 090	MONTH 2	MXSAMPD	01	WAVES 2 3282	WET B -03.6	STN 090
LAT 47-085N	DAY 19	NO.DPTH	6	WND-DIR 330	WW-CODE 02	
LON 57-500W	HR 19.0	W-COLOR		WND-SPD 18	CLD-TPE 2	
MARSD SQ 150		W-TRNSP		BARO 1020.	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
190	0000	0000	32230		2590	14454					
190	0009	0002	32230	808	2589	14457					
190	0019	0000	32230		2590	14458					
190	0028	-0001	32230		2590	14459					
190	0047	-0014	32230	811	2590	14456					
190	0070	0026	32470	803	2608	14481					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0000	32230		2590	14454	0000	00000	2115
0010	0002	32230		2589	14457	0021	00001	2116
0020	-0000	32230		2590	14458	0043	00004	2114
0030	-0003	32226		2589	14458	0064	00010	2116
0050	-0002 C	3228 F		2593	14462	0106	00027	2076

C-REF-NO 345 YR 1962 DEPTH 466 WAVES 1 30X3 AIR T -07.7 VIS 98
 CONS. NO 091 MONTH 2 MXSAMPD 04 WAVES 2 3182 WET B -07.8 STN 091
 LAT 46-540N DAY 19 NO.DPTH 15 WND-DIR 300 WW-CODE 03
 LON 58-110W HR 21.5 W-COLOR WND-SPD 13 CLD-TPE 0
 MARSD SQ 150 W-TRNSP. BARO 1023. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
215	0000	-0050	32140		2584	14430					
215	0009	-0044	32140	823	2584	14434					
215	0019	-0045	32090		2580	14435					
215	0028	-0044	32160		2586	14438					
215	0047	-0040	32160	823	2586	14443					
215	0075	0045	32320	786	2595	14489					
215	0100	0108	32860	705	2634	14529					
215	0125	0036	33060	665	2655	14503					
215	0150	0137	33280		2666	14556					
215	0175	0354	33890	498	2697	14663					
215	0200	0463	34265		2716	14718					
215	0225	0492	34424		2725	14736					
215	0250	0534	34616	498	2735	14760					
215	0300	0507	34716		2746	14759					
215	0400	0466	34854	503	2762	14760					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0050	32140		2584	14430	0000	00000	2165
0010	-0044	32133		2584	14434	0022	00001	2171
0020	-0045	32096		2581	14435	0044	00005	2199
0030	-0045	3216 B		2586	14438	0066	00010	2148
0050	-0033	3216 B		2585	14447	0109	00028	2152
0075	0045	32320		2595	14489	0162	00062	2065
0100	0108	32860		2634	14529	0209	00104	1689
0125	0036	33060		2655	14503	0249	00150	1495
0150	0137	33280		2666	14556	0286	00201	1389
0175	0354	33890		2697	14663	0317	00253	1106
0200	0463	34265		2716	14718	0343	00302	0939
0225	0492	34424		2725	14736	0366	00351	0855
0250	0534	34616		2735	14760	0386	00401	0764
0300	0507	34716		2746	14759	0422	00502	0664
0400	0466	34854		2762	14760	0482	00714	0524

C-REF-NO 345 YR 1962 DEPTH 412 WAVES 1 32X3 AIR T -08.6 VIS 98
 CONS. NO 092 MONTH 2 MXSAMPD 04 WAVES 2 3282 WET B -08.9 STN 092
 LAT 46-390N DAY 20 NO.DPTH 15 WND-DIR 320 WW-CODE 02
 LON 58-310W HR 00.3 W-COLOR WND-SPD 12 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1025. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
003	0000	-0060	31960		2570	14423					
003	0009	-0054	32000	833	2573	14428					
003	0019	-0056	32030		2576	14429					
003	0028	-0056	32050		2577	14431					
003	0047	-0052	31980	838	2571	14435					
003	0070	-0020	32090	843	2579	14455					
003	0094	0003	32320		2597	14473					
003	0117	0078	32770	705	2629	14517					
003	0140	0084	32990		2646	14526					
003	0164	0128	33190	636	2660	14553					
003	0187	0317	33684		2684	14646					
003	0211	0461	34137		2706	14717					
003	0234	0546	34492	522	2724	14761					
003	0281	0514	34680		2743	14758					
003	0375	0456	34837	483	2762	14752					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0060	31960		2570	14423	0000	00000	2299
0010	-0054	32004		2573	14428	0023	00001	2267
0020	-0056	32033		2576	14429	0046	00005	2243
0030	-0056	3204 B		2577	14431	0068	00010	2235
0050	-0048	31985		2572	14437	0114	00029	2281
0075	-0017	32123		2582	14457	0170	00065	2186
0100	0023 B	3244 E		2605	14485	0222	00112	1964
0125	0082 B	3286 C		2636	14521	0268	00164	1672
0150	0090 C	3306 E		2651	14532	0308	00221	1529
0175	0213 D	3341 E		2671	14595	0344	00281	1344
0200	0402	33939		2696	14688	0375	00340	1119
0225	0520	34368		2717	14747	0401	00396	0929
0250	0550 E	3460 H		2732	14767	0423	00449	0795
0300	0574 I	3491 I		2753	14789	0458	00547	0605

C-REF-NO 345 YR 1962 DEPTH 369 WAVES 1 32X3 AIR T -07.2 VIS 98
 CONS. NO 093 MONTH 2 MXSAMPD 03 WAVES 2 3042 WET B -07.5 STN 093
 LAT 46-250N DAY 20 NO.DPTH 14 WND-DIR 320 WW-CODE 03
 LON 58-509W HR 02.5 W-COLOR WND-SPD 07 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1026. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
025	0000	-0030	32070		2578	14438					
025	0009	-0026	32070	833	2578	14442					
025	0018	-0026	32090		2579	14443					
025	0027	-0023	32090		2579	14446					
025	0044	-0008	32100	803	2579	14456					
025	0066	0014	32140	823	2582	14471					
025	0088 4	-0006	32160		2584	14465					
025	0110 4	0009	32210	793	2588	14476					
025	0133 4	0112	32720		2623	14534					
025	0155 4	0072	33060	650	2653	14524					
025	0177 4	0204	33515		2680	14593					
025	0199 4	0352	33964		2703	14667					
025	0221 4	0469	34266	522	2715	14724					
025	0265 4	0494	34641	404	2742	14746					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0030	32070		2578	14438	0000	00000	2226
0010	-0026	32072		2578	14442	0022	00001	2225
0020	-0026	32091		2579	14444	0045	00005	2210
0030	-0021	32091		2579	14448	0067	00010	2212
0050	-0000	32110		2580	14461	0111	00029	2204
0075	0006 B	32148		2583	14469	0167	00064	2178
0100	-0005	3216 F		2584	14468	0221	00113	2163
0125	0080 E	3253 H		2609	14515	0273	00172	1926
0150	0079 E	3298 C		2646	14526	0317	00234	1577
0175	0188	33471		2678	14585	0353	00293	1281
0200	0358	33980		2704	14670	0382	00349	1045
0225	0472 C	3433 D		2720	14726	0407	00402	0900
0250	0507 B	3457 B		2734	14748	0428	00454	0770

C-REF-NO 345	YR 1962	DEPTH 351	WAVES 1 33X3	AIR T -07.3	VIS 98
CONS. NO 094	MONTH 2	MXSAMPD 03	WAVES 2 3042	WET B -07.6	STN 094
LAT 46-229N	DAY 20	NO.DPTH 2	WND-DIR 330	WW-CODE 02	
LON 58-540W	HR 03.1	W-COLOR	WND-SPD 08	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1026.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
031	0000	-0038	32250	853	2593	14437					
031	0345	0469	34799	424	2757	14751					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0038	32250		2593	14437	0000	00000	2085

C-REF-NO 345	YR 1962	DEPTH 331	WAVES 1 33X2	AIR T. -07.5	VIS 98
CONS. NO 095	MONTH 2	MXSAMPD 03	WAVES 2 3042	WET B -07.9	STN 095
LAT 46-199N	DAY 20	NO.DPTH 2	WND-DIR 330	WW-CODE 02	
LON 58-570W	HR 03.7	W-COLOR	WND-SPD 05	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1025.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
037	0000	-0095	32010	833	2575	14407					
037	0303	0472	34755	409	2753	14745					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0095	32010		2575	14407	0000	00000	2250

C-REF-NO 345	YR 1962	DEPTH 309	WAVES 1 X2	AIR T -07.1	VIS 98
CONS. NO 096	MONTH 2	MXSAMPD 03	WAVES 2 42	WET B -07.5	STN 096
LAT 46-180N	DAY 20	NO.DPTH 2	WND-DIR 350	WW-CODE 02	
LON 58-590W	HR 04.2	W-COLOR	WND-SPD 04	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1025.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
042	0000	-0085	31830	833	2561	14409					
042	0283	0483	34741	414	2751	14746					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0085	31830		2561	14409	0000	00000	2391

C-REF-NO 345	YR 1962	DEPTH 256	WAVES 1 X1	AIR T -07.1	VIS 98
CONS. NO 097	MONTH 2	MXSAMPD 02	WAVES 2 2742	WET B -07.5	STN 097
LAT 46-165N	DAY 20	NO.DPTH 13	WND-DIR 320	WW-CODE 02	
LON 59-010W	HR 04.9	W-COLOR	WND-SPD 04	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1025.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
049	0000	-0080	31920		2568	14413					
049	0010	-0079	31920	853	2568	14415					
049	0020	-0080	31940		2569	14417					
049	0030	-0083	31940		2569	14417					
049	0050	-0082	31940	853	2569	14421					
049	0075	-0018	32100	853	2580	14457					
049	0100	0041	32590		2617	14495					
049	0125	0056	33040	808	2652	14512					
049	0150	0201	33490		2678	14587					
049	0175	0312	33890	660	2701	14645					
049	0200	0478	34460		2729	14727					
049	0225	0487	34664	552	2745	14737					
049	0250	0480	34672	409	2746	14739					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0080	31920		2568	14413	0000	00000	2324
0010	-0079	31920		2568	14415	0023	00001	2323
0020	-0080	31940		2569	14417	0047	00005	2307
0030	-0083	31940		2569	14417	0070	00011	2305
0050	-0082	31940		2569	14421	0116	00030	2304
0075	-0018	32100		2580	14457	0173	00066	2204
0100	0041	32590		2617	14495	0224	00111	1856
0125	0056	33040		2652	14512	0267	00160	1521
0150	0201	33490		2678	14587	0302	00209	1275
0175	0312	33890		2701	14645	0331	00258	1067
0200	0478	34460		2729	14727	0355	00303	0810
0225	0487	34664		2745	14737	0374	00344	0670
0250	0480	34672		2746	14739	0390	00385	0659

C-REF-NO 345	YR 1962	DEPTH 168	WAVES 1 X1	AIR T -07.2	VIS 98
CONS. NO 098	MONTH 2	MXSAMPD 02	WAVES 2 XX	WET B -07.4	STN 098
LAT 46-155N	DAY 20	NO.DPTH 2	WND-DIR 060	WW-CODE 02	
LON 59-030W	HR 05.4	W-COLOR	WND-SPD 04	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1023.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
054	0000	-0095	31730	833	2553	14403					
054	0153	0426	34200	458	2715	14694					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0095	31730		2553	14403	0000	00000	2465

C-REF-NO 345 YR 1962 DEPTH 137 WAVES 1 X1 AIR T -07.1 VIS 98
 CONS. NO 099 MONTH 2 MXSAMPD 01 WAVES 2 XX WET B -07.5 STN 099
 LAT 46-136N DAY 20 NO.DPTH 2 WND-DIR 040 WW-CODE 02
 LON 59-060W HR 06.1 W-COLOR WND-SPD 04 CLD-TPE 6
 MARSD SQ 150 W-TRNSP BARO 1024. CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
061	0000	-0130	31580	862	2542	14385					
061	0127	0050	32390	764	2600	14500					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0130	31580		2542	14385	0000	00000	2572

C-REF-NO 345	YR 1962	DEPTH 102	WAVES 1	X1	AIR T -07.2	VIS 98
CONS. NO 100	MONTH 2	MXSAMPD 01	WAVES 2	XX	WET B -07.5	STN 100
LAT 46-110N	DAY 20	NO.DPTH 2	WND-DIR 040		WW-CODE 02	
LON 59-080W	HR 06.6	W-COLOR	WND-SPD 04		CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1024.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
066	0000	-0080	31580	838	2540	14408					
066	0100	-0010	32120	823	2581	14465					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0080	31580		2540	14408	0000	00000	2584
0100	-0010	32120		2581	14465	0240	00113	2190

C-REF-NO 345	YR 1962	DEPTH 93	WAVES 1	X1	AIR T -04.7	VIS 98
CONS. NO 101	MONTH 2	MXSAMPD 01	WAVES 2	42	WET B -05.5	STN 101
LAT 46-090N	DAY 20	NO.DPTH 7	WND-DIR 040		WW-CODE 03	
LON 59-110W	HR 07.2	W-COLOR	WND-SPD 05		CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1022.		CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
072	0000	-0140	31580		2542	14380					
072	0008	-0138	31490	843	2534	14381					
072	0018	-0138	31530		2538	14383					
072	0028	-0125	31530		2537	14391					
072	0048	-0119	31560		2540	14398					
072	0073	-0054	31800	815	2557	14435					
072	0087	-0033	31870	793	2562	14449					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0140	31580		2542	14380	0000	00000	2569
0010	-0138	3149 B		2535	14381	0026	00001	2636
0020	-0136	31531		2538	14385	0053	00005	2606
0030	-0125	31529		2537	14391	0079	00012	2609
0050	-0114	3158 B		2541	14400	0131	00033	2573
0075	-0060 C	3178 H		2555	14432	0194	00074	2436

C-REF-NO 345	YR 1962	DEPTH 70	WAVES 1 XX	AIR T -04.7	VIS 98
CONS. NO 102	MONTH 2	MXSAMPD 01	WAVES 2 42	WET B -05.5	STN 102
LAT 46-020N	DAY 20	NO.DPTH 6	WND-DIR 040	WW-CODE 03	
LON 59-200W	HR 08.3	W-COLOR	WND-SPD 05	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1021.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	PO4 -P-	NO2	NO3	SIO	PH
083	0000	-0145	31350		2523	14374					
083	0010	-0159	31350		2524	14369					
083	0020	-0158	31360		2524	14372					
083	0030	-0156	31360		2524	14374					
083	0050	-0144	31420		2529	14384					
083	0060	-0145	31420		2529	14385					

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0145	31350		2523	14374	0000	00000	2745
0010	-0159	31350		2524	14369	0028	00001	2742
0020	-0158	31360		2524	14372	0055	00006	2733
0030	-0156	31360		2524	14374	0083	00013	2733
0050	-0144	31420		2529	14384	0137	00035	2687

REFERENCES

- Knudsen, K. , 1901 Hydrographischen Tabellen. Copenhagen, 63 pp.
- Ekman, V.W. , 1908 Die Zusammendrückbarkeit des Meerwassers nebst
einigen Werten für Wasser und Quecksilber.
Publ. Circ. Cons. Explor. Mer. , No. 43, 47 pp.
- Strickland, J.D.H. MS, 1958. Standard methods of seawater analyses.
Volume II. Fish. Res. Bd. Canada, MS Rept. Oceanogr.
and Limnol. , No. 19, 78 pp.
- Strickland, J.D.H. and Parsons, T.R. , 1960. A manual of seawater analysis.
Bull. Fish. Res. Bd. Canada, No. 125, 185 pp.
- Wilson, W.D. , 1960 Equation for the speed of sound in seawater. Journ.
Acoust. Soc. , America 32 (10); p. 1357.
- Rattray, M. Jr. , 1962 Interpolation errors and oceanographic sampling.
Deep Sea Research. vol. 9, pp 25 to 37.
- Sauer, C.D. , and Fofonoff, N.P. Oceans II, a computer program
for processing oceanographic data (Publication pending).



DATA RECORD

SOUTH-EAST OF GRAND BANKS

No. 9
1964 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1964

ROGER DUHAMEL, F. R. S. C.
QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1964

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CANADIAN OCEANOGRAPHIC DATA CENTRE

615 Booth Street, Ottawa 4

Data Record

SOUTHEAST OF GRAND BANKS

(C.O.D.C. Reference C.R.N. 355)

No. 9

1964 Data Record Series

Programmed by the Canadian Committee on Oceanography

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

Southeast of Grand Banks

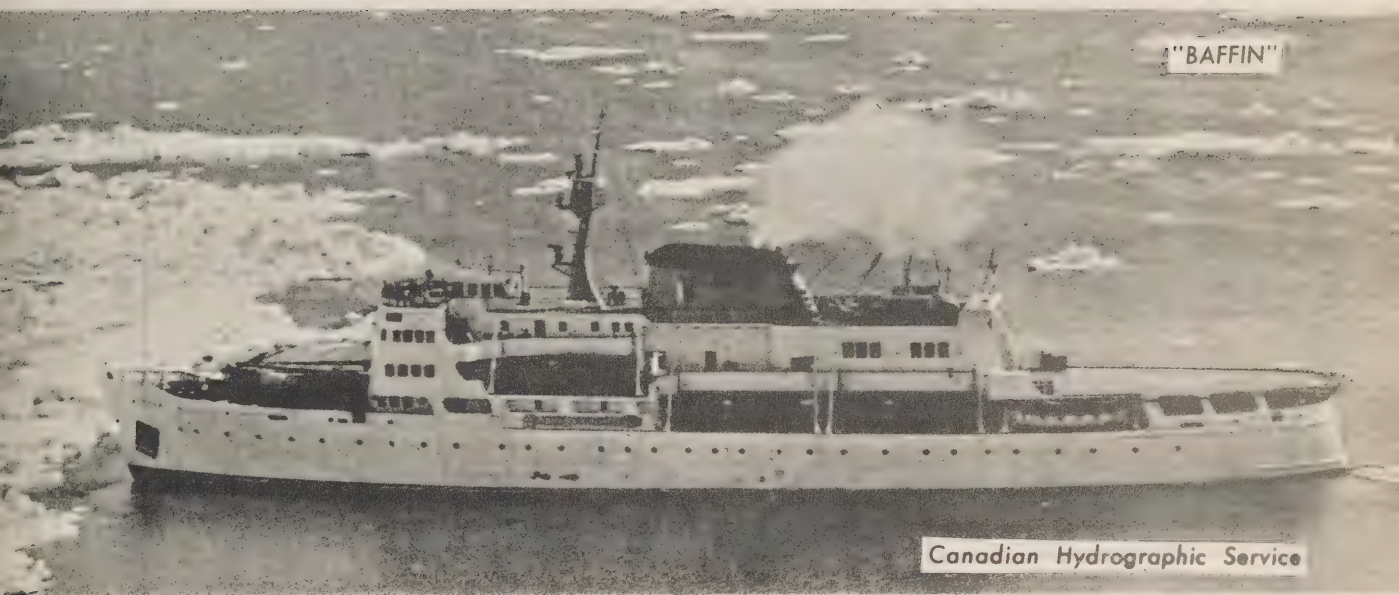
Ship:	C. S. S. "Baffin"
Local cruise designation:	Baffin - 3
Cruise period:	February 26 - March 20, 1962
Observers:	Mr. A. Holler
	Mr. J. Y. Dugas
	Mr. B. Kelly
	Mr. C. Cunningham
	Mr. C. Bayers

MARINE SCIENCES BRANCH

Bedford Institute of Oceanography, Dartmouth, N.S.

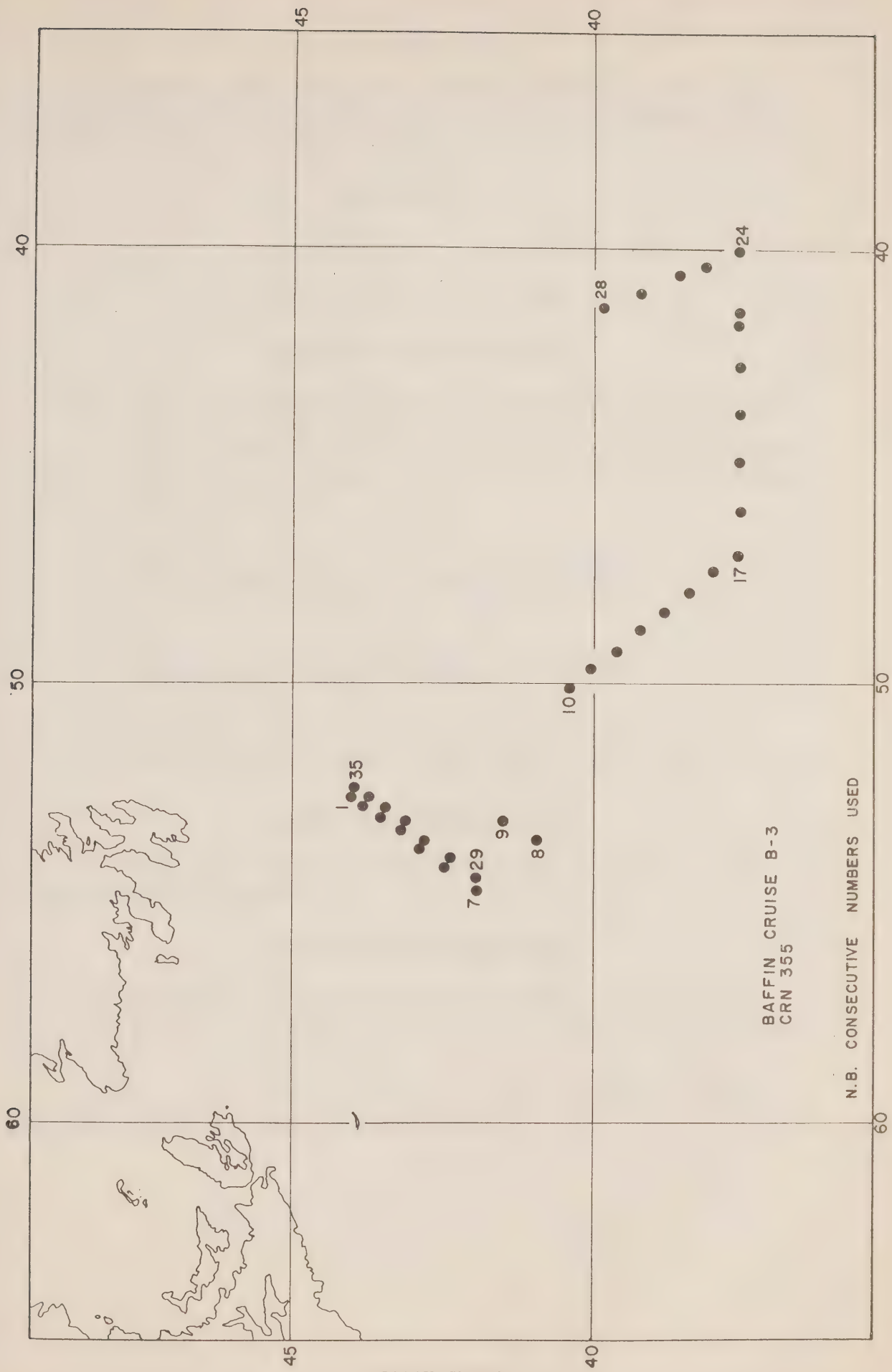
SECTION I

Description of data collection procedures



"BAFFIN"

Canadian Hydrographic Service



INTRODUCTION

The purpose of this cruise was to obtain temperature, salinity, and oxygen data from surface to bottom in the deep water to the southeast of the Grand Banks as part of a study of the oceanography of the area.

CRUISE LOG

Depart Halifax, 26 February 1962

Return Halifax, 20 March 1962

OBSERVATIONS PROCEDURES

1. 35 Oceanographic stations were occupied employing Nansen water bottles and Richter and Wiese, and Yoshino reversing thermometers. Observations were made at standard depths up to depths of 4500 m in three casts, 10-500m, 600-2500m, and 3000-4500m, made in this order.
2. Surface water samples for salinity were obtained in a metal bucket. Surface temperatures were measured with a mercury in glass thermometer in a towing frame, graduated in 0.1 °C graduations.
3. Dissolved oxygen was determined at each alternate station by modified Winkler technique (FRB Bulletin 125).
4. Weather observations were made at each oceanographic and bathythermograph station by ship's officers and scientific personnel.

LABORATORY PROCEDURES

Salinities were determined on NIO Conductivity Bridge No. 14 at the Bedford Institute of Oceanography

BATHYTHERMOGRAPH DATA

BT observations to a maximum depth of 275 meters were made on station just prior to the first serial bottle cast. BT stations were also made at other locations as the survey required.

Bathythermograph records were processed by the bathythermograph center of the Bedford Institute of Oceanography

PERSONNELAt Sea:

A. Holler	Officer-in-Charge	DMTS
J. Y. A. Dugas		DMTS
B. Kelly		DMTS
C. Glennie		DMTS
M. MacLean		DMTS
C. Cunningham		AOG
C. Bayers		AOG

Data Analyses:

Compilation of Data:	A. Holler
Salinity Determinations:	T. R. Foote
B. T. Processing:	T. A. Grant, D. M. MacDonald

SECTION II

Description of the machine-generated data record

INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation cycle.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. If interpolations are carried out, additional derived quantities are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an "**estimate of precision**" for each observed variable selected for interpolation at the standard oceanographic depth. The precision depends on the instrument or technique used to determine the variable.

A standard precision stated as a **standard deviation** (σ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under "GENERAL INFORMATION" of section II of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an "**interpolation error estimate**" derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S, O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the "**measurement error estimate**" comprises the "**combined measurement and interpolation error estimate**". It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

[illegible]

5 TIME		7 DEPTH OF SAMPLE	8 TEMPERATURE	9 SALINITY	10 OXYGEN	13 PO ₄ - P	14 TOTAL - P	15 NO ₂ - N	16 NO ₃ - N	17 SiO ₃ - Si	18 p.H.
HOURS	$\frac{1}{10}$ G.M.T.	e	e	d/g	e						
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
80

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

σ_i = Standard deviation of the combined error estimates at standard oceanographic depth,

ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $1/3 (V_{i_1} - V_{i_2})$

γ = Interpolation polynomial coefficient.

Z_j = Observed depth.

Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma_i}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma_i}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS-

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(10) DEPTH	(15) WAVES 1	(20) AIR T	(25) VIS
(2) CONS. NO	(7) MONTH	(11) MXSAMPD	(16) WAVES 2	(21) WET B	(26) STN
(3) LAT	(8) DAY	(12) NO. DPTH	(17) WND-DIR	(22) WW-CODE	
(4) LON	(9) HR	(13) W-COLOR	(18) WND-FCE	(23) CLD-TPE	
(5) MARSD SQ		(14) W-TRNSP	(19) BARO	(24) CLD-AMT	(27) HW

(1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the C.R.N. was a number designated by C.O.D.C.

(2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

(3) LATITUDE:

Indicate the position of the platform at the time of observation

(4) LONGITUDE:

(5) MARSDEN SQUARE: Designates the geographic area code (see Marsden square chart) in which the observation is located.

(6) YEAR:

(7) MONTH:

(8) DAY:

(9) HOUR:

The time (Greenwich Mean Time) at which the Master-card data were recorded.

It is reported to tenths of hours (Table 1).

If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

(10) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section II. Charted depths are denoted by the sounding value, preceded by the letter "C".

(11) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.

- (12) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch cards).
- (13) WATER COLOUR: A code based on the percentage of yellow (see table 2 and NOTE under FIELD "14" below).
- (14) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section II of the data record will state which method was used.
- (15) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (16) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant other-than wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (17) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing. Wind direction 990 means:—wind variable or direction unknown.
- (18) WIND FORCE
(WND-FCE): Beaufort Notation (See Table 6).
- WIND SPEED
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section II.
- (19) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section II of the data record will state the type of instrument used.
- (20) AIR TEMPERATURE: In degrees Celsius.
- (21) WET BULB: In degrees Celsius.
- (22) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (23) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (24) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (25) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (26) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (27) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO ₄	(9) -P-	(10) NO ₂	(11) NO ₃	(12) SiO ₃
					(13) pH.

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

(1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.

When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.

(2) DEPTH: The depth in metres at the moment the oceanographic bottle reversed.

(3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of this section. An alphabetical character following the Temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.

(4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 C1\%$, reported in:
a. 1/100 parts per 1000, or
b. 1/1000 parts per 1000.

In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3)

In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.

(5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places.
An alphabetical character following the value is the measurement error estimate as referred to under (3).

(6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).

(7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

(8) PO ₄	Phosphate — Phosphorus reported to hundredths of microgram-atoms per litre.
(9) -P-	Total Phosphorus reported to hundredths of microgram-atoms per litre.
(10) NO ₂	Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre — No dissolved nitrogen included —
(11) NO ₃	Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
(12) SiO ₃	Silicate-Silicon reported in whole microgram-atoms per litre.
(13) pH	The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value smaller the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY: **A.** The reported salinity values are observed to three decimal places.
 (i) the interpolation error estimate is less than twice the standard deviation of measurement
 —the interpolated value is reported to three decimal places (e.g., 30.139).
 (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 —the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23C).
B. The reported salinity values are observed to two decimal places and followed by the measurement error estimate.
 —the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND
VELOCITY: Computed from temperature and salinity values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^p \delta dp$$

ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2,345 dyn. metres).

(8) POTENTIAL
ENERGY
ANOMALY:

The Potential energy anomaly χ as defined by:

$$\chi = 1/g \int_0^p \rho \delta dp = \int_0^z \rho p \delta dz$$

χ is expressed in units of 10^8 ergs/cm² and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC
VOLUME
ANOMALY:

The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

SPECIAL CHARACTERS

‡ (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs

* (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels within that interval are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas.

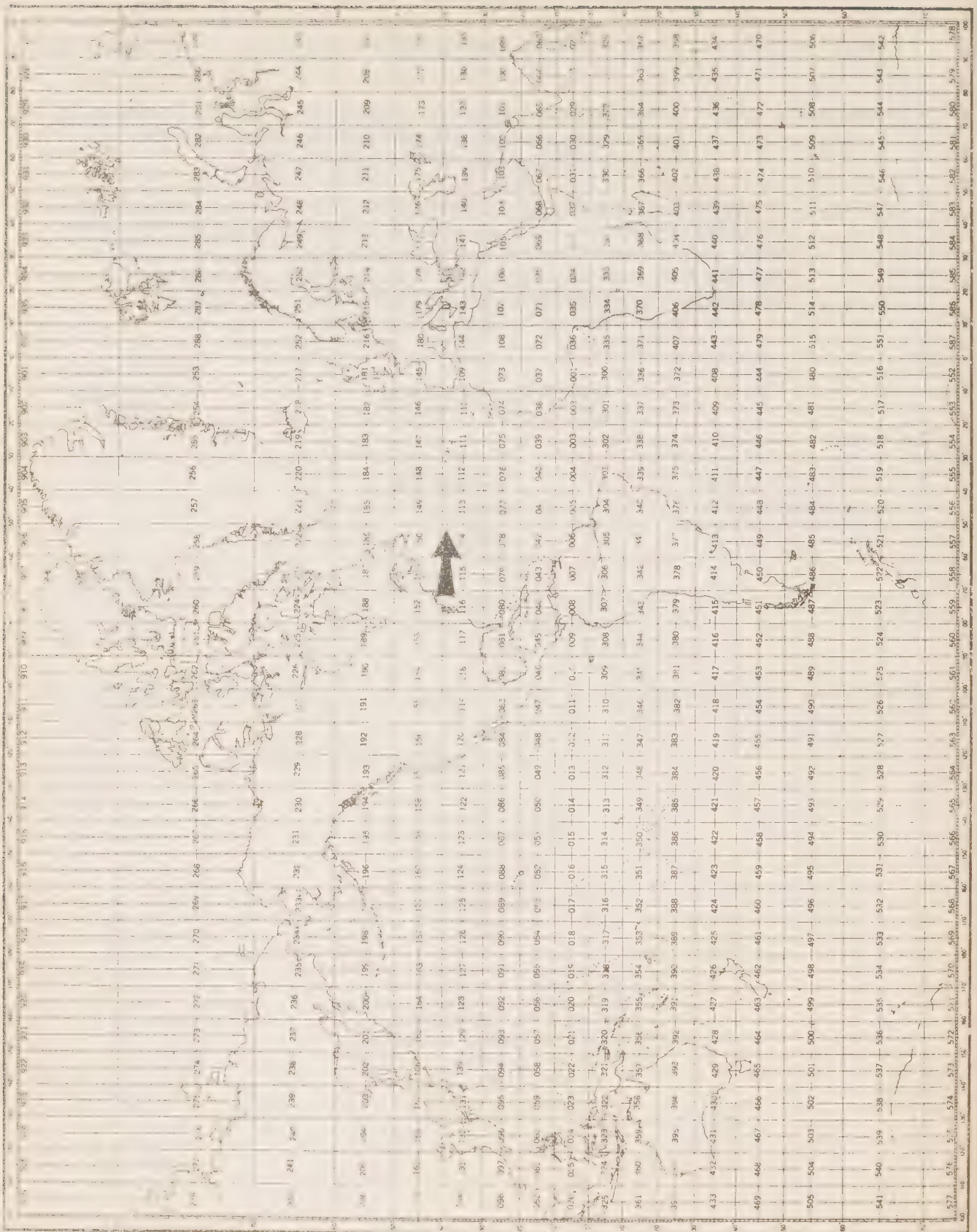
DOUBTFUL DATA CODES

The doubtful data are reported as follows.

<u>Code</u>	<u>Doubtful Data</u>
1	depth
2	temperature
3	salinity
4	any combination of 1, 2, and 3,
5	oxygen

NOTE: Codes 1 to 4 inclusive take precedence over code 5

Location of the doubtful data code is in the "Observed Data" portion, immediately to the left of the "GMT" column.



MARS DEN SQUARE CHART

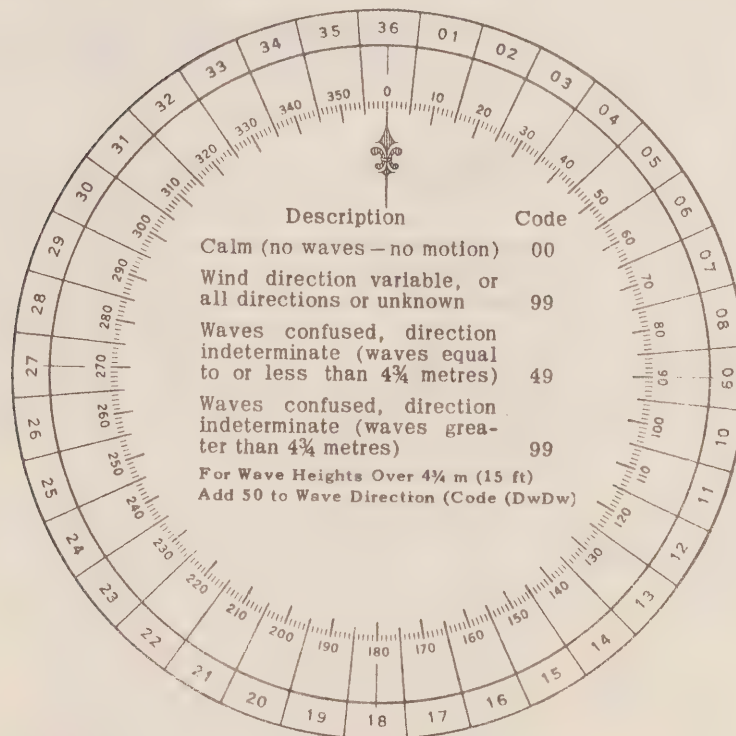
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (P_w)
(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (H_w)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m ($2\frac{1}{2}$ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m ($13\frac{1}{2}$ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code			Code
0	Less than ¼ m (1 ft)	Add 50 to Dw Dw	0 5 m (16 ft)
1	½ m (1½ ft)		1 5½ m (17½ ft)
2	1 m (3 ft)		2 6 m (19 ft)
3	1½ m (5 ft)		3 6½ m (21 ft)
4	2 m (6½ ft)		4 7 m (22½ ft)
5	2½ m (8 ft)		5 7½ m (24 ft)
6	3 m (9½ ft)		6 8 m (25½ ft)
7	3½ m (11 ft)		7 8½ m (27 ft)
8	4 m (13 ft)		8 9 m (29 ft)
9	4½ m (14 ft)		9 9½ m (30½ ft) or more
x	Height not determined		

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure ww				
No meteors except photometeors	00	Cloud development not observed or not observable	characteristic change of the state of sky during the past hour	
	01	Clouds generally dissolving or becoming less developed		
	02	State of sky on the whole unchanged		
	03	Clouds generally forming or developing		
Haze, dust, sand or smoke	04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes		
	05	Haze		
	06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation		
	07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen		
	08	Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm		
	09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour		
	10	Mist		
	11	Patches of		
	12	More or less continuous		
	13	Lightning visible, no thunder heard		
	14	Precipitation within sight, not reaching the ground or the surface of the sea		
	15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station		
	16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station		
	17	Thunderstorm, but no precepitation at the time of observation		
	18	Squalls		
	19	Funnel clouds		
		at or within sight of the station during the preceding hour or at the time of observation		
ww = 20 - 29		Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation		
		20	Drizzle (not freezing) or snow grains	
		21	Rain (not freezing)	
		22	Snow	
		23	Rain and snow or ice pellets, type (a)	
		24	Freezing drizzle or freezing rain	
		25	Shower(s) of rain	
		26	Shower(s) of snow, or of rain and snow	
		27	Shower(s) of hail, or of rain and hail	
		28	Fog or ice fog	
		29	Thunderstorm (with or without precipitation)	
ww = 30 - 39		Duststorm, sandstorm, drifting or blowing snow		
		30	Slight or moderate duststorm or sandstorm	- has decreased during the preceding hour
		31		- no appreciable change during the preceding hour
		32		- has begun or has increased during the preceding hour
		33	Severe duststorm or sandstorm	- has decreased during the preceding hour
		34		- no appreciable change during the preceding hour
		35		- has begun or has increased during the preceding hour
		36	Slight or moderate blowing snow	generally low (below eye level)
		37	Heavy drifting snow	
		38	Slight or moderate blowing snow	generally high (above eye level)
		39	Heavy blowing snow	
ww = 40 - 49		Fog or ice fog at the time of observation		
		40	Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
		41	Fog or ice fog in patches	
		42	Fog or ice fog, sky visible	has become thinner during the preceding hour
		43	Fog or ice fog, sky invisible	
		44	Fog or ice fog, sky visible	no appreciable change during the preceding hour
		45	Fog or ice fog, sky invisible	
		46	Fog or ice fog, sky visible	has begun or has become thicker during the preceding hour
		47	Fog or ice fog, sky invisible	
		48	Fog, depositing rime, sky visible	
		49	Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle

- | | | | |
|----|--|---|--------------------------------------|
| 50 | Drizzle, not freezing, intermittent | { | slight at time of observation |
| 51 | Drizzle, not freezing, continuous | | |
| 52 | Drizzle, not freezing, intermittent | { | moderate at time of observation |
| 53 | Drizzle, not freezing, continuous | | |
| 54 | Drizzle, not freezing, intermittent | { | heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous | | |
| 56 | Drizzle, freezing, slight | | |
| 57 | Drizzle, freezing, moderate or heavy (dense) | | |
| 58 | Drizzle and rain, slight | | |
| 59 | Drizzle and rain, moderate or heavy | | |

ww = 60 - 69 Rain

- | | | | |
|----|---|---|---------------------------------|
| 60 | Rain, not freezing, intermittent | { | slight at time of observation |
| 61 | Rain, not freezing, continuous | | |
| 62 | Rain, not freezing, intermittent | { | moderate at time of observation |
| 63 | Rain, not freezing, continuous | | |
| 64 | Rain, not freezing, intermittent | { | heavy at time of observation |
| 65 | Rain, not freezing, continuous | | |
| 66 | Rain, freezing, slight | | |
| 67 | Rain, freezing, moderate or heavy | | |
| 68 | Rain or drizzle and snow, slight | | |
| 69 | Rain or drizzle and snow, moderate or heavy | | |

70 - 79 Solid precipitation not in showers

- | | | | |
|----|---|---|---------------------------------|
| ww | | | |
| 70 | Intermittent fall of snow flakes | { | slight at time of observation |
| 71 | Continuous fall of snow flakes | | |
| 72 | Intermittent fall of snow flakes | { | moderate at time of observation |
| 73 | Continuous fall of snow flakes | | |
| 74 | Intermittent fall of snow flakes | { | heavy at time of observation |
| 75 | Continuous fall of snow flakes | | |
| 76 | Ice prisms (with or without fog) | | |
| 77 | Snow grains (with or without fog) | | |
| 78 | Isolated starlike snow crystals (with or without fog) | | |
| 79 | Ice pellets, type (a) | | |

ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- | | | | |
|----|--|---|---|
| 80 | Rain shower(s), slight | | |
| 81 | Rain shower(s), moderate or heavy | | |
| 82 | Rain shower(s), violent | | |
| 83 | Shower(s) of rain and snow mixed, slight | | |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy | | |
| 85 | Snow shower(s), slight | | |
| 86 | Snow shower(s), moderate or heavy | | |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain or rain and snow mixed | { | - slight |
| 88 | | | |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder | { | - moderate or heavy |
| 90 | | | |
| 91 | Slight rain at time of observation | { | thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy rain at time of observation | | |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation | { | thunderstorm at time of observation |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation | | |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | { | thunderstorm at time of observation |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation | | |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation | { | thunderstorm at time of observation |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation | | |
| 99 | Thunderstorm, heavy, with hail at time of observation | | |

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Ci	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
X	Cloud not visible owing to darkness, fog, dust storm, sand storm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
90	Less than 50 metres (less than 55 yards)
91	50-200 metres (approx. 55-220 yards)
92	200-500 metres (approx. 220-550 yards)
93	500-1,000 metres (approx. 550 yards- $\frac{3}{4}$ n.m.)
94	1-2 km (approx. $\frac{3}{4}$ -1 n.m.)
95	2-4 km (approx. 1-2 n.m.)
96	4-10 km (approx. 2-6 n.m.)
97	10-20 km (approx. 6-12 n.m.)
98	20-50 km (approx. 12-30 n.m.)
99	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

GENERAL INFORMATION

<u>Institute</u>	Bedford Institute of Oceanography
<u>Observation platform:</u>	C. S. S. "Baffin"
<u>Vessel's cruising speed:</u>	15 knots
<u>Total number of stations occupied:</u>	23
<u>Anemometer height above sea level:</u>	22 metres
<u>Barometer readings</u>	were obtained using an Aneroid Barometer and were corrected prior to recording
<u>Air temperature</u>	was observed from a Sling Psychrometer
<u>Wet bulb temperature</u>	was observed from a Sling Psychrometer
<u>Surface Sea water temperature</u>	was measured with a mercury-in-glass thermometer in a towing frame

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature:	0.02
Salinity:	0.004
Oxygen:	not available

SECTION III

Serial oceanographic data

C-REF-NO 355	YR 1962	DEPTH 97	WAVES 1 01X3	AIR T 02.5	VIS 94
CONS. NO 001	MONTH 2	MXSAMPD 01	WAVES 2 0542	WET B -03.1	STN 001
LAT 44-060N	DAY 28	NO.DPTH 6	WND-DIR 010	WW-CODE 53	
LON 52-240W	HR 12.4	W-COLOR	WND-SPD 13	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1006.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
124	0000	0235	32985		2636	14570
124	0010	0226	32861		2626	14566
124	0020	0228	32860		2626	14569
124	0030	0227	32862		2626	14570
124	0050	0226	32873		2627	14573
124	0075	0229	32877	793	2627	14579

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0235	32985		2636	14570	0000	00000	1679
0010	0226	32861		2626	14566	0017	00001	1766
0020	0228	32860		2626	14569	0035	00004	1769
0030	0227	32862		2626	14570	0053	00008	1767
0050	0226	32873		2627	14573	0088	00023	1758
0075	0229	32877		2627	14579	0133	00051	1758

C-REF-NO 355	YR 1962	DEPTH 951	WAVES 1 01X3	AIR T 03.2	VIS 95
CONS. NO 002	MONTH 2	MXSAMPD 07	WAVES 2 3542	WET B 03.2	STN 002
LAT 43-530N	DAY 28	NO.DPTH 13	WND-DIR 010	WW-CODE 60	
LON 52-400W	HR 15.1	W-COLOR	WND-SPD 15	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1005.	CLD-AMT 8	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	151	0000	0465	33327		2641	14673
	151	0009	0462	33311		2640	14673
	151	0024	0462	33306		2640	14676
	151	0057	0462	33307		2640	14681
	151	0076	0743	34356	504	2687	14811
	151	0114	0934	34718	409	2686	14895
	151	0151	0936	35114	419	2717	14907
	151	0188	0802	34994		2729	14861
	151	0225	0716	34848	449	2730	14832
	151	0301	0664	34881	468	2740	14824
	151	0376	0602	35031	419	2760	14814
1	156	0500	0458	34917	583	2768	14774
	156	0700	0442	34934		2771	14801

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0465	33327		2641	14673	0000	00000	1625
0010	0462	33310		2640	14673	0016	00001	1636
0020	0462	33306		2640	14675	0033	00003	1640
0030	0439 H	3322 I		2635	14666	0050	00008	1682
0050	0436 I	3321 I		2635	14668	0084	00022	1689
0075	0727 B	3430 C		2685	14804	0120	00044	1222
0100	0904 F	3472 I		2691	14881	0150	00071	1172
0125	0951	3486 E		2694	14905	0180	00105	1145
0150	0938	35106		2716	14907	0206	00142	0948
0175	0854 D	3507 E		2726	14879	0229	00180	0851
0200	0769	34942		2729	14850	0250	00220	0823
0225	0716	34848		2730	14832	0271	00266	0822
0250	0690 C	3483 C		2732	14825	0291	00316	0806
0300	0664	34879		2739	14824	0330	00426	0741
0400	0572 B	3502 D		2763	14806	0394	00650	0528
0500	0458	34917		2768	14774	0445	00885	0479
0600	0449 H	3501 I		2776	14788	0490	01137	0411
0700	0442	34934		2771	14801	0534	01436	0469

C-REF-NO 355	YR 1962	DEPTH 1554	WAVES 1 05X6	AIR T 05.7	VIS 90
CONS. NO 003	MONTH 2	MXSAMPD 10	WAVES 2 2946	WET B 05.3	STN 003
LAT 43-340N	DAY 28	NO.DPTH 16	WND-DIR 200	WW-CODE 47	
LON 52-560W	HR 18.0	W-COLOR	WND-SPD 13	CLD-TPE	
MARSD SQ 150		W-TRNSP	BARO 1004.	CLD-AMT 9	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	185	0000	1330	35668		2687	15027
	185	0009	1370	35686		2680	15042
	185	0028	1372	35680		2679	15046
	185	0071	1372	35683		2679	15053
	185	0094	1374	35680		2678	15057
	185	0141	1373	35685		2679	15065
	185	0188	1369	35677		2679	15071
	185	0249	1116	35331		2702	14990
	185	0298	0948	35160		2718	14936
	180	0330	0857	35084		2727	14906
	180	0334	0847				
	180	0416	0604	34884		2748	14819
	180	0500	0570	34900		2753	14820
	180	0592	0548	35020		2765	14828
4	180	0775	0475	35191		2788	14830
4	180	0966	0426	34956		2774	14839

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1330	35668		2687	15027	0000	00000	1193
0010	1372	35686		2679	15043	0012	00001	1264
0020	1378 B	35686		2678	15046	0025	00003	1280
0030	1372	35680		2679	15046	0038	00006	1276
0050	1372	35681		2679	15049	0064	00017	1281
0075	1372	35682		2679	15054	0096	00037	1287
0100	1374	35681		2678	15058	0129	00067	1300
0125	1374	35683		2679	15062	0162	00105	1304
0150	1379 B	3569 B		2678	15068	0195	00151	1315
0175	1379 C	3569 B		2678	15072	0228	00207	1322
0200	1328 D	3562 D		2683	15059	0261	00270	1283
0225	1229 G	3548 E		2692	15028	0292	00338	1199
0250	1112	35327		2703	14989	0321	00409	1103
0300	0942	35155		2719	14934	0373	00554	0951
0400	0652	3491 B		2744	14836	0457	00850	0715
0500	0570	34900		2753	14820	0525	01162	0630
0600	0545	35032		2767	14828	0582	01486	0512
0700	0506 B	3515 C		2781	14830	0628	01787	0388
0800	0477 C	3514 G		2783	14835	0666	02083	0373

C-REF-NO 355 YR 1962 DEPTH 3182 WAVES 1 02X3 AIR T 04.6 VIS 92
 CONS. NO 004 MONTH 2 MXSAMPD 07 WAVES 2 0446 WET B 04.6 STN 004
 LAT 43-180N DAY 28 NO.DPTH 14 WND-DIR 350 WW-CODE 42
 LON 53-180W HR 21.3 W-COLOR WND-SPD 13 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1005. CLD-AMT 9 HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	213	0000	1356	35788		2691	15037
	213	0010	1426	35766		2674	15061
	213	0029	1431	35769		2673	15066
	213	0073	1429	35774		2674	15073
	213	0097	1430	35763	512	2673	15077
	213	0146	1434	35770	319	2673	15086
	213	0196	1288	35434	503	2677	15042
	213	0246	1192	35500		2701	15019
	213	0296	1048	35345	316	2716	14974
	213	0395	0835	35113	335	2733	14909
	213	0495	0634	35003	444	2753	14846
1	216	0506	0628	34998	444	2754	14845
	216	0585	0564	35025		2764	14833
	216	0675	0513	35018	542	2770	14827

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1356	35788		2691	15037	0000	00000	1156
0010	1426	35766		2674	15061	0012	00001	1315
0020	1439 D	35764		2671	15067	0026	00003	1347
0030	1431	35769		2673	15066	0039	00006	1329
0050	1431	35774		2674	15070	0066	00017	1332
0075	1429	35773		2674	15073	0000	00039	1336
0100	1432	35768		2673	15078	0134	00069	1354
0125	1441 C	3579 D		2672	15085	0168	00109	1367
0150	1424 B	3574 B		2673	15083	0202	00158	1371
0175	1356 D	3557 H		2674	15063	0237	00215	1363
0200	1280	3544 B		2679	15040	0271	00280	1322
0225	1232 B	3546 F		2690	15028	0303	00350	1218
0250	1181	35491		2703	15015	0332	00421	1107
0300	1038	35333		2716	14971	0385	00569	0980
0400	0822	35104		2734	14905	0475	00892	0819
0500	0631	35001		2753	14846	0549	01227	0636
0600	0562 D	3501 D		2763	14834	0609	01564	0554

C-REF-NO 355 YR 1962 DEPTH 3695 WAVES 1 01X3 AIR T. 03.7 VIS 97
 CONS. NO 005 MONTH 3 MXSAMPD 25 WAVES 2 3546 WET B 03.3 STN 005
 LAT 43-000N DAY 01 NO.DPTH 19 WND-DIR 350 WW-CODE 02
 LON 53-320W HR 01.9 W-COLOR WND-SPD 14 CLD-TPE 0
 MARSD SQ 150 W-TRNSP BARO 1005. CLD-AMT 9 HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	019	0000	0593	33725		2658	14731
	019	0009	0627	33689		2651	14746
	019	0027	0627	33690		2651	14749
	019	0069	0658	33788		2654	14769
	019	0092	1026	34794		2677	14926
	019	0138	1205	35163		2672	15001
	019	0184	1252	35480		2688	15029
	019	0230	1078	35211		2700	14972
	019	0275	0844	34826		2709	14889
	019	0371	0644	34763		2733	14826
	027	0438	0584	34825		2746	14814
	027	0502	0562	34947		2758	14817
	027	0563	0553	35009		2764	14825
	027	0702	0488	34999		2771	14821
1	027	0850	0448	34984		2774	14829
	043	1138	0414	35000		2779	14863
	043	1548	0382	34975		2781	14918
	043	2006	0357	34966		2782	14985
	043	2452	0324	34958		2785	15047

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0593	33725		2658	14731	0000	00000	1468
0010	0628	33687		2650	14746	0015	00001	1540
0020	0632 B	33682		2649	14749	0031	00003	1550
0030	0615 D	3366 F		2650	14744	0046	00007	1549
0050	0590 I	3360 I		2648	14736	0078	00020	1567
0075	0751 G	3404 I		2662	14810	0116	00044	1443
0100	1089 G	3494 I		2677	14951	0150	00075	1311
0125	1199 I	3517 I		2674	14997	0184	00114	1342
0150	1234 B	3528 D		2676	15015	0217	00161	1338
0175	1257	3544 D		2684	15028	0250	00216	1265
0200	1208 C	3543 D		2692	15016	0281	00276	1191
0225	1104 B	3526 B		2699	14981	0311	00339	1133
0250	0972 C	3503 D		2704	14935	0338	00407	1079
0300	0766 D	3475 G		2715	14862	0390	00553	0977
0400	0612	34780		2739	14818	0478	00863	0759
0500	0562	34943		2758	14817	0546	01173	0588
0600	0537 B	3502 B		2767	14825	0602	01486	0514

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0700	0489	35000		2771	14821	0652	01821	0478
0800	0459	34988		2773	14825	0699	02186	0460
1000	0426	34990		2777	14845	0790	03027	0439
1200	0408	34998		2780	14871	0878	04025	0431
1500	0385	34979		2781	14911	1011	05875	0442
2000	0357	34966		2782	14984	1239	10003	0456

C-REF-NO 355	YR 1962	DEPTH 4645	WAVES 1 35X3	AIR T 06.7	VIS 96
CONS. NO 006	MONTH 3	MXSAMPD 39	WAVES 2 0446	WET B 06.3	STN 006
LAT 42-280N	DAY 01	NO.DPTH 22	WND-DIR 320	WW-CODE 02	
LON 53-580W	HR 09.3	W-COLOR	WND-SPD 13	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1002.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
093	0000	1360	35929		2701	15040
093	0009	1437	35765		2672	15065
093	0028	1438	35770		2672	15068
093	0070	1439	35769		2672	15075
093	0092	1437	35769	528	2672	15078
093	0139	1440	35764	522	2671	15087
093	0186	1441	35775	532	2672	15095
093	0233	1436	35766		2672	15101
093	0280	1196	35480	345	2699	15025
093	0377	0964	35234	325	2721	14956
093	0475	0808	35100	320	2736	14912
109	0539	0591	34960	465	2755	14835
109	0631	0526	34990		2766	14825
109	0722	0442	34910	577	2769	14804
109	0908	0429	34960	601	2774	14830
109	1095	0409	34961	612	2777	14853
109	1373	0389	34958	645	2779	14891
109	1846	0360	34955	631	2781	14959
109	2322	0349	34958		2783	15035
122	2936	0294	34946	631	2787	15118
122	3430	0257	34927		2789	15187
122	3928	0230	34906	620	2789	15263

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1360	35929		2701	15040	0000	00000	1061
0010	1440	35759		2671	15066	0012	00001	1348
0020	1451 E	3574 E		2667	15071	0026	00003	1389
0030	1438	35770		2672	15069	0040	00006	1343
0050	1439	35770		2672	15072	0067	00018	1351
0075	1439	35769		2672	15076	0101	00039	1358
0100	1437	35768		2672	15080	0135	00070	1364
0125	1439	35765		2671	15084	0170	00110	1376
0150	1441	35767		2671	15089	0205	00159	1387
0175	1441	35773		2671	15093	0240	00218	1391
0200	1452 D	3579 B		2670	15101	0275	00286	1410
0225	1445 C	3578 B		2671	15103	0310	00363	1410
0250	1358 F	3567 D		2681	15077	0345	00447	1316
0300	1130 D	3541 C		2705	15005	0405	00617	1090

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0933 D	3520 B		2724	14948	0507	00978	0923
0500	0720 E	3504 B		2744	14881	0591	01359	0732
0600	0533 F	3497 D		2763	14822	0655	01719	0542
0700	0461	3493 B		2769	14809	0707	02068	0494
0800	0424 E	3492 D		2772	14810	0756	02444	0471
1000	0419	34964		2776	14842	0849	03305	0450
1200	0401	34960		2778	14867	0940	04337	0449
1500	0380	34957		2779	14909	1077	06243	0452
2000	0357	34956		2782	14984	1310	10443	0463
2500	0335	34956		2784	15060	1547	15960	0469
3000	0289	34944		2787	15127	1779	22552	0442
3500	0253	34925		2789	15198	2002	30026	0428

C-REF-NO 355	YR 1962	DEPTH 4572	WAVES 1 35X3	AIR T 06.7	VIS 98
CONS. NO 007	MONTH 3	MXSAMPD 37	WAVES 2 0446	WET B 06.3	STN 007
LAT 42-010N	DAY 01	NO.DPTH 20	WND-DIR 320	WW-CODE 02	
LON 54-300W	HR 17.2	W-COLOR	WND-SPD 13	CLO-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 1001.	CLO-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
172	0000	1410	35827		2682	15055
172	0010	1442	35827		2675	15067
172	0029	1443	35919		2682	15072
172	0072	1442	35857		2678	15078
172	0096	1444	35828		2675	15082
172	0146	1443	35823		2675	15090
172	0193	1444	35818		2674	15098
172	0241	1293	35651		2693	15054
172	0289	1173	35479		2703	15019
172	0386	0993	35276		2720	14968
172	0483	0761	35082		2742	14895
180	0752	0497	35019		2772	14833
180	0950	0450	35012		2776	14847
180	1149	0425	34985		2777	14869
180	1448	0391	34987		2781	14905
180	1948	0355	34999		2785	14975
180	2448	0325	34963		2785	15047
191	2752	0303	34953		2787	15090
191	3247	0265	34940		2789	15159
191	3740	0237	34918		2790	15233

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1410	35827		2682	15055	0000	00000	1235
0010	1442	35827		2675	15067	0013	00001	1304
0020	1447 B	3587 B		2678	15071	0026	00003	1285
0030	1443	35920		2682	15072	0039	00006	1244
0050	1442	3591 D		2682	15075	0064	00016	1255
0075	1442	35853		2677	15078	0096	00037	1305
0100	1444	35826		2675	15083	0129	00067	1335
0125	1444	35821		2674	15087	0163	00106	1346
0150	1446	35826		2674	15091	0197	00154	1355
0175	1452 C	3583 B		2673	15098	0231	00211	1373
0200	1426 B	35799		2677	15093	0266	00277	1347
0225	1350 D	3572 B		2686	15071	0299	00349	1261
0250	1269	35617		2695	15047	0329	00424	1180
0300	1152	35451		2705	15013	0387	00586	1096
0400	0959 B	35245		2723	14958	0489	00950	0933
0500	0733 B	3507 B		2745	14886	0573	01333	0730

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0598 G	3501 G		2758	14849	0640	01709	0600
0700	0517 D	3500 D		2768	14833	0696	02083	0512
0800	0479 B	35017		2773	14834	0746	02463	0464
1000	0443	35005		2777	14852	0838	03318	0449
1200	0419	34983		2777	14875	0930	04355	0454
1500	0387	34989		2781	14912	1065	06237	0436
2000	0352	34996		2785	14982	1285	10190	0427
2500	0321	34961		2786	15054	1507	15367	0446
3000	0284	34947		2788	15124	1731	21727	0432
3500	0251 .	34928		2789	15197	1949	29069	0422

C-REF-NO 355	YR 1962	DEPTH 4901	WAVES 1 33X4	AIR T 09.1	VIS 97
CONS. NO 008	MONTH 3	MXSAMPD 41	WAVES 2 0386	WET B 07.9	STN 008
LAT 41-000N	DAY 02	NO.DPTH 23	WND-DIR 330	WW-CODE 25	
LON 53-300W	HR 02.7	W-COLOR	WND-SPD 18	CLD-TPE 0	
MARSD SQ 150		W-TRNSP	BARO 997.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
027	0000	1302	35649		2691	15018
027	0008	1318	35507		2677	15022
027	0023	1320	35498		2676	15025
027	0059	1322	35469		2673	15032
027	0078	1278	35472	552	2682	15020
027	0118	1264	35366	572	2677	15021
027	0157	1280	35409	552	2677	15033
027	0196	1302	35573		2685	15049
027	0236	0896	34952	488	2711	14904
043	0315	0874	35034	403	2721	14909
043	0397	0836	35114	344	2733	14910
043	0485	0681	35019	419	2748	14863
043	0512	0531	34945	484	2762	14806
043	0580	0510	34849		2757	14808
043	0640	0508	34992	519	2768	14819
043	0764	0490	34994	573	2770	14832
043	0980	0434	34990	598	2776	14845
043	1403	0390	34973	618	2780	14897
058	1890	0364	34968		2782	14968
058	2623	0318	34961	623	2786	15074
058	3090	0285	34943		2787	15140
058	3572	0254	34927	608	2789	15211
058	4064	0234	34914		2790	15289

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1302	35649		2691	15018	0000	00000	1153
0010	1319	3550 B		2676	15023	0012	00001	1301
0020	1321	3549 B		2674	15025	0026	00003	1315
0030	1325 B	35491		2674	15028	0039	00006	1321
0050	1327 B	35475		2672	15032	0066	00017	1343
0075	1285	35472		2681	15022	0099	00038	1271
0100	1262 B	3541 C		2681	15017	0131	00067	1276
0125	1266	35364		2676	15022	0163	00105	1326
0150	1276	35392		2676	15030	0197	00152	1333
0175	1315 I	3552 I		2679	15049	0230	00208	1319
0200	1265 E	3552 E		2688	15036	0263	00270	1232
0225	1016 I	3514 I		2705	14948	0291	00333	1067
0250	0855 I	3490 I		2713	14890	0317	00396	0988

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	0839 I	3495 I		2720	14893	0366	00533	0938
0400	0836	35114		2733	14910	0455	00851	0832
0500	0596 C	34978		2756	14831	0528	01181	0605
0600	0509	3489 C		2760	14811	0587	01517	0572
0700	0501	3502 D		2771	14826	0641	01870	0480
0800	0481	34994		2771	14834	0689	02246	0484
1000	0431	34989		2777	14847	0783	03114	0446
1200	0404 B	34981		2779	14869	0873	04127	0438
1500	0384	34971		2780	14911	1007	06001	0446
2000	0358	34968		2783	14984	1236	10140	0455
2500	0326	34963		2785	15056	1467	15501	0451
3000	0291	34947		2787	15128	1696	21993	0444
3500	0258	34929		2789	15200	1920	29529	0433
4000	0236	34916		2790	15279	2141	38137	0431

C-REF-NO 355	YR 1962	DEPTH 4792	WAVES 1 27X4	AIR T 04.8	VIS 97
CONS. NO 009	MONTH 3	MXSAMPD 39	WAVES 2 3049	WET B 03.7	STN 009
LAT 41-295N	DAY 04	NO.DPTH 20	WND-DIR 270	WW-CODE 02	
LON 53-010W	HR 00.4	W-COLOR	WND-SPD 15	CLD-TPE 7	
MARSD SQ 150		W-TRNSP	BARO 992.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
004	0000	0867	34431		2675	14847
004	0010	0896	34409		2668	14860
004	0030	0886	34425		2671	14859
004	0075	0894	34454		2672	14870
004	0100	0919	34506		2672	14884
004	0150	1152	35168		2683	14985
004	0200	1170	35390		2697	15002
004	0250	1002	35147		2708	14948
004	0300	0728	34819		2726	14848
004	0400	0479	34598		2740	14762
004	0500	0507	34881		2759	14794
020	0764	0408	34904		2772	14797
020	0954	0429	34971		2775	14838
020	1147	0375	34913		2776	14847
020	1438	0366	34925		2778	14892
020	1930	0359	34958		2782	14973
020	2423	0325	34949		2784	15042
044	2919	0289	34956		2788	15113
044	3398	0256	34934		2789	15182
044	3892	0235	34928		2791	15259

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0867	34431		2675	14847	0000	00000	1308
0010	0896	34409		2668	14860	0013	00001	1370
0020	0896 B	34412		2668	14861	0027	00003	1370
0030	0886	34425		2671	14859	0041	00006	1347
0050	0884	34433		2672	14862	0068	00017	1342
0075	0894	34454		2672	14870	0102	00039	1346
0100	0919	34506		2672	14884	0136	00070	1351
0125	1034 I	3482 I		2677	14934	0169	00108	1312
0150	1152	35168		2683	14985	0202	00154	1266
0175	1186	35336		2689	15003	0233	00206	1212
0200	1170	35390		2697	15002	0263	00263	1148
0225	1104 B	3530 D		2702	14982	0291	00325	1100
0250	1002	35147		2708	14948	0318	00391	1044
0300	0728	34819		2726	14848	0367	00527	0873
0400	0479	34598		2740	14762	0448	00814	0730
0500	0507	34881		2759	14794	0513	01112	0565

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0475 H	3495 I		2768	14798	0566	01412	0489
0700	0437 F	3494 I		2772	14799	0614	01730	0456
0800	0412 B	34920		2773	14805	0660	02086	0454
1000	0418 B	3496 B		2776	14841	0752	02934	0451
1200	0370	34911		2777	14854	0843	03964	0447
1500	0366	34930		2779	14903	0979	05869	0453
2000	0355	34958		2782	14983	1211	10055	0459
2500	0319	34951		2785	15053	1443	15430	0450
3000	0283	34953		2788	15124	1666	21780	0427
3500	0253	34939		2790	15198	1882	29031	0417

C-REF-NO 355	YR 1962	DEPTH 4064	WAVES 1 19X3	AIR T 11.8	VIS 98
CONS. NO 010	MONTH 3	MXSAMPD 20	WAVES 2 2446	WET B 09.9	STN 022
LAT 40-300N	DAY 04	NO.DPTH 16	WND-DIR 210	WW-CODE 02	
LON 50-000W	HR 22.4	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 990.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
224	0000	1455	35780		2669	15069
224	0010	1472	35773		2665	15076
224	0030	1475	35768		2664	15080
224	0075	1469	35760		2664	15086
224	0100	1469	35761	522	2664	15090
224	0150	1470	35765	534	2664	15098
224	0200	1475	35775	534	2664	15108
224	0250	1432	35781		2674	15103
224	0300	1320	35669	355	2689	15073
224	0400	1117	35399	316	2707	15017
224	0500	0909	35182	316	2727	14955
235	0800	0517	34968	522	2765	14849
235	1000	0469	35021	562	2775	14863
235	1200	0426	34982	591	2777	14878
235	1500	0392	34973	613	2779	14914
235	2000	0356	34966	620	2783	14984

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1455	35780		2669	15069	0000	00000	1362
0010	1472	35773		2665	15076	0014	00001	1405
0020	1476	35770		2663	15079	0028	00003	1419
0030	1475	35768		2664	15080	0042	00007	1421
0050	1473	35763		2664	15083	0071	00018	1426
0075	1469	35760		2664	15086	0107	00041	1428
0100	1469	35761		2664	15090	0143	00074	1435
0125	1469	35762		2664	15094	0179	00116	1442
0150	1470	35765		2664	15098	0216	00167	1449
0175	1475	35770		2664	15104	0252	00228	1464
0200	1475	35775		2664	15108	0289	00300	1467
0225	1461	35786		2668	15108	0326	00379	1437
0250	1432	35781		2674	15103	0362	00466	1388
0300	1320	35669		2689	15073	0428	00654	1257
0400	1117	35399		2707	15016	0547	01076	1095
0500	0909	35182		2727	14955	0649	01541	0918
0600	0738	3506 C		2743	14905	0733	02018	0763
0700	0607	3498 C		2755	14869	0805	02490	0645
0800	0517	34968		2765	14849	0865	02953	0549
1000	0469	35021		2775	14863	0968	03901	0471
1200	0426	34982		2777	14878	1063	04975	0465

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
1500	0392	34973		2779	14914	1203	06920	0455
2000	0356	34966		2783	14984	1434	11091	0454

C-REF-NO 355	YR 1962	DEPTH 4535	WAVES 1 18X2	AIR T 12.8	VIS 98
CONS. NO 011	MONTH 3	MXSAMPD 36	WAVES 2 49XX	WET B 06.9	STN 023
LAT 40-060N	DAY 04	NO.DPTH 22	WND-DIR 210	WW-CODE 13	
LON 49-360W	HR 23.7	W-COLOR	WND-SPD 08	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 989.	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
237	0000	1466	35802		2668	15073
237	0010	1494	35809		2663	15084
237	0030	1494	35795		2662	15087
237	0074	1494	35791		2661	15094
237	0098	1494	35791		2661	15098
237	0148	1494	35782		2661	15106
237	0197	1492	35783		2661	15113
237	0246	1480	35745		2661	15117
237	0296	1492	35802		2663	15130
237	0395	1321	35667		2688	15089
237	0494	1067	35339		2712	15014
237	0593	0848	35112		2731	14947
237	0692	0711	35058		2747	14910
*258	0780	0625	35037		2757	14890
*258	0973	0468	34975		2771	14858
*258	1169	0446	35002		2776	14882
*258	1462	0403	34970		2778	14912
*258	1954	0367	34961		2781	14980
*258	2451	0339	34957		2784	15053
*273	2649	0316	34953		2785	15077
*273	3127	0282	34984		2791	15146
*273	3600	0246	34917		2789	15212

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1466	35802		2668	15073	0000	00000	1368
0010	1494	35809		2663	15084	0014	00001	1425
0020	1499 B	35804		2661	15087	0028	00003	1441
0030	1494	35795		2662	15087	0043	00007	1441
0050	1494	35791		2661	15090	0072	00019	1450
0075	1494	35791		2661	15094	0109	00042	1458
0100	1494	35791		2661	15098	0146	00075	1466
0125	1494	35786		2661	15102	0183	00118	1477
0150	1494	35782		2661	15106	0220	00171	1487
0175	1494	35784		2661	15110	0257	00233	1492
0200	1491	35780		2661	15113	0295	00306	1498
0225	1484	3576 B		2661	15115	0333	00389	1507
0250	1482	35749		2661	15118	0371	00482	1515

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1488	35802		2663	15129	0447	00697	1506
0400	1309	35652		2690	15085	0588	01195	1275
0500	1052	35321		2713	15009	0705	01734	1059
0600	0836	35105		2732	14943	0803	02282	0877
0700	0702	35056		2748	14907	0884	02820	0726
0800	0605	35029		2759	14885	0952	03343	0622
1000	0461 B	34977		2772	14859	1065	04375	0493
1200	0441	35000		2776	14885	1163	05479	0471
1500	0399	34968		2778	14917	1306	07468	0468
2000	0365	34961		2781	14987	1544	11776	0471
2500	0333	34956		2784	15059	1783	17322	0467
3000	0290	3498 B		2790	15127	2009	23721	0419
3500	0252	3493 B		2789	15198	2225	30963	0422

C-REF-NO 355	YR 1962	DEPTH 5303	WAVES 1	X6	AIR T 12.8	VIS 92
CONS. NO 012	MONTH 3	MXSAMPD 45	WAVES 2	46	WET B 09.4	STN 024
LAT 39-390N	DAY 05	NO.DPTH 23	WND-DIR 240	WW-CODE 63		
LON 49-090W	HR 08.2	W-COLOR	WND-SPD 10	CLD-TPE 0		
MARSD SQ 113		W-TRNSP	BARO 983.	CLD-AMT 9	HW	

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
082	0000	1543	35968		2664	15099
082	0010	1573	36000		2660	15111
082	0029	1562	35986		2661	15110
082	0073	1528	35875		2660	15105
082	0097	1512	35822	528	2660	15104
082	0145	1534	35909	532	2661	15120
082	0194	1582	36055	517	2662	15144
082	0243	1514	35852		2661	15129
082	0292	1502	35963	384	2673	15134
082	0390	1279	35623	355	2694	15074
082	0489	1087	35403	316	2713	15021
082	0589	0894	35169	335	2728	14964
091	0688	0702	35032		2746	14905
091	0800	0574	35007	486	2761	14873
091	1000	0480	34997	556	2772	14867
091	1200	0436	34989	591	2776	14883
091	1500	0395	34960	620	2778	14916
091	2000	0356	34947	620	2781	14984
091	2500	0330	34954		2784	15058
106	2983	0294	34939	620	2786	15126
106	3482	0256	34927		2789	15197
106	3981	0234	34902	601	2789	15275
106	4480	0227	34891	612	2788	15360

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1543	35968		2664	15099	0000	00000	1409
0010	1573	36000		2660	15111	0014	00001	1453
0020	1573 B	36000		2660	15112	0029	00003	1456
0030	1561	35984		2661	15110	0044	00007	1446
0050	1546	3594 B		2661	15108	0073	00019	1453
0075	1526	35869		2660	15105	0110	00042	1469
0100	1512	35823		2660	15104	0147	00076	1480
0125	1519	3585 B		2661	15111	0184	00119	1480
0150	1541	3593 B		2661	15123	0221	00171	1479
0175	1569 C	3602 D		2662	15137	0259	00234	1485
0200	1575 B	3603 C		2661	15143	0296	00306	1496
0225	1542 C	3593 F		2661	15136	0334	00389	1507
0250	1513 B	3586 C		2663	15130	0372	00481	1498

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1488 B	3595 C		2675	15131	0445	00687	1400
0400	1259	35598		2696	15068	0577	01157	1215
0500	1066	35375		2715	15014	0691	01680	1044
0600	0871	35149		2730	14957	0789	02231	0900
0700	0685	35026		2748	14900	0871	02775	0723
0800	0574	35007		2761	14872	0938	03286	0596
1000	0480	34997		2772	14867	1049	04306	0503
1200	0436	34989		2776	14882	1148	05422	0473
1500	0395	34960		2778	14915	1291	07414	0469
2000	0356	34947		2781	14983	1529	11710	0468
2500	0330	34954		2784	15058	1766	17217	0463
3000	0293	34939		2786	15128	2000	23847	0451
3500	0255	34926		2789	15199	2225	31415	0430
4000	0233	34906		2789	15277	2446	40012	0433
4500	0227	34890		2788	15363	2674	50087	0455

C-REF-NO 355	YR 1962	DEPTH 5486	WAVES 1 25X2	AIR T 09.9	VIS 99
CONS. NO 013	MONTH 3	MXSAMPD 22	WAVES 2 2246	WET B 09.9	STN 025
LAT 39-140N	DAY 05	NO.DPTH 19	WND-DIR 250	WW-CODE 81	
LON 48-430W	HR 14.6	W-COLOR	WND-SPD 09	CLD-TPE 9	
MARSD SQ 113		W-TRNSP	BARO 984.	CLD-AMT 8	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	146	0000	1585	36018		2658	15113
	146	0008	1614	35988		2649	15123
	146	0027	1612	35994		2650	15125
	146	0068	1600	35962		2650	15128
	146	0091	1593	35937		2650	15129
	146	0138	1584	35904		2650	15134
	146	0184	1502	35776		2658	15114
1	158	0230	1481	35788		2664	15115
	146	0231	1417	35731		2673	15094
	146	0277	1358	35758		2688	15083
	146	0370	1129	35482		2712	15017
	158	0423	0988	35143		2710	14971
1	146	0464	0930	35258		2729	14958
1	146	0530	0796	35069		2735	14916
	146	0587	0692	34977		2743	14884
	158	0712	0576	35002		2761	14859
	158	1200	0408	34956		2776	14870
	158	1692	0382	34998		2782	14943
	158	2187	0350	34971		2784	15013

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1585	36018		2658	15113	0000	00000	1463
0010	1616	35986		2649	15124	0015	00001	1558
0020	1619 B	35986		2648	15126	0031	00003	1567
0030	1611	35993		2650	15126	0047	00007	1549
0050	1606	35981		2651	15127	0078	00020	1552
0075	1598	35954		2650	15128	0117	00045	1562
0100	1594	35934		2650	15131	0157	00081	1576
0125	1590 B	35917		2649	15134	0196	00127	1588
0150	1563 B	3587 B		2652	15129	0236	00183	1572
0175	1518 B	3580 B		2656	15118	0275	00248	1534
0200	1488 F	3577 C		2661	15112	0314	00322	1499
0225	1457 I	3576 E		2667	15107	0351	00403	1448
0250	1415 I	3576 D		2676	15097	0386	00489	1371
0300	1309 B	35729		2696	15070	0451	00671	1192
0400	1045 B	3526 G		2710	14989	0565	01077	1065
0500	0859 B	3518 F		2734	14936	0661	01516	0840
0600	0676	3497 B		2745	14879	0740	01963	0733

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0700	0583	34993		2759	14859	0808	02412	0605
0800	0524 D	3500 B		2767	14852	0866	02855	0535
1000	0441 F	3498 C		2775	14851	0967	03782	0463
1200	0408	34956		2776	14870	1060	04842	0461
1500	0384 C	3498 B		2781	14911	1197	06743	0439
2000	0344 D	3497 B		2784	14979	1420	10752	0435

C-REF-NO 355	YR 1962	DEPTH 5194	WAVES 1 33X4	AIR T 13.2	VIS 98
CONS. NO 014	MONTH 3	MXSAMPD 21	WAVES 2 2929	WET B 12.2	STN 026
LAT 38-480N	DAY 05	NO.DPTH 19	WND-DIR 340	WW-CODE 25	
LON 48-160W	HR 18.9	W-COLOR	WND-SPD 18	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 989.	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
189	0000	1195	34715		2640	14969
189	0007	1176	34622		2636	14963
189	0022	1175	34628		2637	14965
189	0055	1306	35137		2651	15021
189	0072	1327	35196	571	2651	15032
189	0110	1094	34818	571	2666	14953
189	0147	1071	35066	473	2690	14954
189	0183	0979	34980		2699	14926
189	0220	0872	34837	473	2705	14891
189	0296	0831	34963	394	2722	14889
189	0372	0652	34833	448	2737	14831
189	0449	0606	34887	472	2748	14826
198	0527	0540	34922		2759	14812
198	0663	0498	34968	542	2767	14818
198	0832	0454	34983	591	2774	14828
198	0994	0437	34981	591	2775	14848
198	1250	0401	34984	591	2779	14876
198	1664	0366	34945	636	2780	14931
198	2094	0348	34955		2782	14996

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1195	34715		2640	14969	0000	00000	1640
0010	1172	34606		2636	14962	0017	00001	1681
0020	1172	34615		2636	14964	0034	00003	1678
0030	1204 E	3474 I		2640	14978	0050	00008	1642
0050	1284 C	3506 G		2649	15012	0083	00021	1568
0075	1312 D	3517 D		2652	15027	0122	00046	1546
0100	1164 I	3492 I		2661	14978	0160	00080	1457
0125	1077 F	3490 I		2676	14951	0195	00120	1323
0150	1065	35066		2691	14953	0226	00165	1188
0175	1003	3502 B		2698	14934	0256	00213	1126
0200	0927 B	3491 B		2702	14909	0283	00267	1086
0225	0868 B	3484 B		2706	14890	0310	00326	1049
0250	0850 H	3487 H		2711	14887	0336	00389	1006
0300	0822	34957		2723	14886	0385	00524	0907
0400	0628 C	3484 B		2741	14826	0467	00818	0735
0500	0562	34911		2755	14817	0535	01129	0611
0600	0511 B	34950		2764	14813	0593	01454	0531

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0700	0487	34974		2769	14820	0645	01799	0494
0800	0461	34983		2773	14826	0694	02174	0467
1000	0436	34981		2775	14849	0787	03041	0458
1200	0408	34984		2779	14871	0878	04071	0440
1500	0377	34961		2780	14908	1013	05946	0445
2000	0350	34956		2782	14981	1241	10067	0452

C-REF-NO 355	YR 1962	DEPTH 5358	WAVES 1 32X3	AIR T 12.6	VIS 98
CONS. NO 015	MONTH 3	MXSAMPD 36	WAVES 2 3249	WET B 09.4	STN 027
LAT 38-225N	DAY 06	NO.DPTH 17	WND-DIR 330	WW-CODE 01	
LON 47-480W	HR 11.6	W-COLOR	WND-SPD 13	CLD-TPE 4	
MARSD SQ 113		W-TRNSP	BARO 1005.	CLD-AMT 2	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	116	0000	1019	34173		2629	14900
	116	0010	1050	34192		2626	14913
	116	0028	1070	34312		2631	14925
	116	0071	1277	35057		2650	15013
	116	0094	0778	34313		2679	14827
	116	0145	0850	34671		2696	14868
	116	0474	0576	34955		2757	14819
	116	0574	0516	34943		2763	14811
	133	0668	0493	34990		2770	14817
	133	0725	0490	35003		2771	14826
	133	0883	0452	34989		2774	14836
	133	1127	0408	34971		2778	14858
1	133	1528	0380	34955		2779	14914
1	133	1956	0360	34950		2781	14978
	150	2640	0309	34932		2784	15073
	150	3120	0272	34909		2786	15140
	150	3608	0241	34898		2788	15211

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1019	34173		2629	14900	0000	00000	1736
0010	1050	34192		2626	14913	0018	00001	1776
0020	1062 B	34245		2628	14920	0035	00004	1758
0030	1094 F	3437 F		2632	14934	0053	00008	1722
0050	1255 I	3483 I		2637	14999	0087	00022	1680
0075	1194 I	3494 H		2657	14984	0127	00047	1493
0100	0745 I	3429 I		2681	14815	0162	00078	1260
0125	0727 I	3437 I		2691	14813	0193	00114	1175
0150	0311 I	3376 I		2691	14639	0222	00155	1160
0175	0089 I	3348 I		2686	14541	0252	00205	1204
0500	0558	34951		2759	14816	0612	01362	0577
0600	0507	34955		2765	14811	0668	01675	0522
0700	0491	34999		2771	14822	0719	02013	0481
0800	0474	35001		2773	14832	0767	02384	0470
1000	0429	34980		2776	14846	0860	03245	0450
1200	0401	34967		2778	14867	0950	04269	0443
1500	0381	34956		2779	14909	1087	06171	0454
2000	0357	34949		2781	14984	1321	10406	0468
2500	0320	34937		2784	15054	1558	15902	0462

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
3000	0281	34915		2786	15123	1790	22519	0451
3500	0248	34901		2787	15196	2017	30145	0436

C-REF-NO 355 YR 1962 DEPTH 5139 WAVES 1 33X6 AIR T 13.3 VIS 98
 CONS. NO 016 MONTH 3 MXSAMPD 44 WAVES 2 3446 WET B 09.4 STN 028
 LAT 37-550N DAY 06 NO.DPTH 25 WND-DIR 320 WW-CODE 02
 LON 47-150W HR 20.6 W-COLOR WND-SPD 13 CLD-TPE 6
 MARSD SQ 113 W-TRNSP BARO 1001. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
222	0000	1636	36234		2663	15131
222	0010	1665	36203		2654	15141
222	0028	1664	36217		2655	15144
222	0072	1666	36202		2653	15152
222	0096	1666	36199	503	2653	15156
222	0145	1664	36195	503	2653	15163
222	0193	1635	36111	503	2654	15161
222	0242	1613	36065		2655	15162
222	0290	1490	35781	493	2661	15128
222	0388	1373	35779	374	2686	15106
222	0486	1163	35468	345	2704	15048
222	0584	0920	35182	325	2725	14973
235	0628	0799		381		
222	0682	0720	35021		2743	14911
235	0779	0626	35040	454	2757	14890
235	0936	0505	34996		2769	14867
235	1170	0453	35012	571	2776	14885
235	1563	0386	35024	620	2784	14923
235	1980	0360	34957		2781	14982
235	2420	0336	34959	620	2784	15047
*246	2749	0312				
*246	2988	0287	34948	612	2788	15124
*246	3015	0288	34942		2787	15129
206	3930	0236	34906		2789	15267
206	4416	0228	34899	601	2789	15349

*MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1636	36234		2663	15131	0000	00000	1418
0010	1665	36203		2654	15141	0015	00001	1509
0020	1669 B	36206		2653	15144	0030	00003	1518
0030	1664	36217		2655	15144	0045	00007	1503
0050	1665	36213		2655	15148	0076	00020	1514
0075	1666	36202		2653	15152	0114	00044	1534
0100	1666	36200		2653	15156	0153	00079	1544
0125	1667	36201		2653	15161	0192	00124	1552
0150	1661	36187		2653	15163	0231	00179	1559
0175	1647	36145		2654	15162	0270	00245	1565

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1635	3611 B		2654	15162	0310	00321	1571
0225	1626 B	3609 C		2654	15163	0349	00408	1572
0250	1594 B	3602 C		2656	15157	0389	00504	1563
0300	1476 B	3577 D		2664	15125	0466	00722	1503
0400	1351	3575 B		2689	15101	0607	01223	1288
0500	1130	35423		2707	15038	0729	01782	1126
0600	0873	35145		2729	14958	0831	02357	0907
0700	0700	3502 B		2745	14906	0915	02912	0749
0800	0607	35036		2759	14886	0984	03443	0620
1000	0483 C	34996		2771	14868	1098	04487	0507
1200	0447	35015		2777	14887	1197	05602	0468
1500	0394	35025		2783	14916	1332	07471	0421
2000	0359	34956		2782	14985	1557	11563	0465
2500	0331	34958		2784	15058	1794	17048	0462
3000	0287	34945		2787	15126	2024	23570	0439
3500	0252	34927		2789	15198	2244	30994	0425
4000	0251 I	3488 I		2785	15285	2477	40059	0481

C-REF-NO 355	YR 1962	DEPTH 5121	WAVES 1 X3	AIR T 12.1	VIS 98
CONS. NO 017	MONTH 3	MXSAMPD 47	WAVES 2 3226	WET B 08.9	STN 029
LAT 37-300N	DAY 07	NO.DPTH 23	WND-DIR 320	WW-CODE 01	
LON 47-000W	HR 04.6	W-COLOR	WND-SPD 07	CLD-TPE 4	
MARSD SQ 113		W-TRNSP	BARO 1010.	CLD-AMT 6	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	046	0000	1750	36470		2654	15168
	046	0008	1788	36433		2642	15180
	046	0023	1789	36433		2641	15183
	046	0057	1778	36415		2643	15185
	046	0076	1759	36393		2646	15182
	046	0115	1748	36381		2647	15185
	046	0152	1750	36373		2646	15192
	046	0191	1750	36381		2647	15198
	046	0230	1748	36424		2651	15205
	046	0313	1680	36218		2651	15196
	046	0399	1648	36171		2655	15200
1	046	0487	1536	36035		2671	15178
	055	0673	1162	35480		2705	15078
	055	0831	0780	35086		2739	14960
	055	1021	0602	35098		2765	14922
	055	1286	0462	35026		2776	14908
	055	1733	0415	35036		2782	14964
	055	2184	0352	34973		2784	15013
	055	2646	0321	34962		2786	15079
	071	3114	0278	34974		2791	15142
	071	3706	0247	34922		2789	15231
	071	4197	0232	34904		2789	15311
	071	4697	0228	34904		2789	15399

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1750	36470		2654	15168	0000	00000	1505
0010	1791	36431		2641	15181	0016	00001	1633
0020	1793	36430		2640	15183	0032	00003	1641
0030	1789	36431		2641	15184	0049	00008	1634
0050	1782	36421		2642	15185	0082	00021	1633
0075	1760	36394		2646	15182	0123	00047	1609
0100	1749	36383		2647	15183	0163	00084	1601
0125	1748	36378		2647	15187	0203	00130	1610
0150	1750	36373		2646	15191	0244	00188	1627
0175	1750	36375		2646	15196	0285	00256	1635
0200	1750	36393		2648	15200	0326	00336	1631
0225	1749	36420		2650	15204	0367	00425	1616
0250	1734 B	3639 D		2651	15203	0408	00524	1615

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1692 B	3626 C		2652	15198	0490	00755	1627
0400	1647	36170		2655	15199	0653	01344	1620
0500	1514	3600 B		2673	15173	0810	02063	1478
0600	1325 B	3571 E		2691	15124	0951	02856	1316
0700	1091 C	3540 B		2712	15057	1074	03673	1120
0800	0849 D	3515 B		2733	14981	1176	04457	0904
1000	0613 B	3509 C		2762	14922	1331	05856	0620
1200	0496	3505 B		2774	14908	1445	07136	0506
1500	0426 E	3503 C		2780	14929	1592	09175	0462
2000	0377	35000		2783	14993	1826	13393	0458
2500	0330	34961		2785	15058	2059	18810	0457
3000	0288	34972		2790	15127	2283	25159	0421
3500	0256	34942		2790	15199	2498	32385	0419
4000	0237	34909		2789	15279	2717	40923	0437
4500	0228	34901		2789	15364	2945	50976	0450

C-REF-NO 355	YR 1962	DEPTH 5303	WAVES 1 32X2	AIR T 12.2	VIS 98
CONS. NO 018	MONTH 3	MXSAMPD 49	WAVES 2 2346	WET B 09.1	STN 030
LAT 37-300N	DAY 07	NO.DPTH 25	WND-DIR 320	WW-CODE 03	
LON 45-550W	HR 14.0	W-COLOR	WND-SPD 07	CLD-TPE 5	
MARSD SQ 113		W-TRNSP	BARO 1010.	CLD-AMT 7	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	157	0000	1765	36438		2648	15172
	157	0010	1787	36412		2640	15180
	157	0030	1786	36417		2641	15183
	157	0075	1786	36413		2641	15190
	157	0100	1788	36417	513	2640	15195
	157	0150	1785	36411	517	2641	15202
	157	0200	1759	36385	528	2645	15202
	157	0250	1756	36378		2645	15210
	157	0300	1754	36383	513	2646	15217
	157	0400	1697	36330	464	2656	15216
	157	0500	1580	36124	444	2667	15195
2	157	0600	1403	35851	433	2686	15152
	157	0700	1211	35545		2701	15101
	167	0792	0996	35450	340	2733	15039
	167	0989	0609	34981	478	2755	14918
	167	1187	0489	35003	557	2771	14902
	167	1485	0426	34978	612	2776	14926
	167	1984	0374	34971	616	2781	14988
	167	2480	0347	34964		2783	15062
	167	2482	0348	34964		2783	15062
	140	2947	0306	34949	612	2786	15125
	140	3444	0270	34935		2788	15196
	140	3941	0239	34914	616	2789	15269
	140	4438	0229	34901		2789	15353
	140	4935	0224	34884	596	2788	15439

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1765	36438		2648	15172	0000	00000	1563
0010	1787	36412		2640	15180	0016	00001	1637
0020	1790 B	36410		2639	15182	0033	00003	1650
0030	1786	36417		2641	15183	0049	00008	1638
0050	1786	36416		2641	15186	0082	00021	1645
0075	1786	36413		2641	15190	0124	00048	1657
0100	1788	36417		2640	15195	0166	00086	1667
0125	1789	36416		2640	15199	0208	00134	1678
0150	1785	36411		2641	15202	0250	00194	1682
0175	1772	36398		2643	15202	0292	00264	1669
0200	1759	36385		2645	15202	0334	00345	1657

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0225	1756	36380		2645	15206	0376	00436	1662
0250	1756	36378		2645	15210	0418	00539	1672
0300	1754	36383		2646	15217	0503	00777	1681
0400	1697	36330		2656	15216	0669	01374	1619
0500	1580	36124		2667	15195	0828	02107	1534
0600	1403	35851		2686	15152	0975	02934	1378
0700	1211	35545		2701	15100	1107	03814	1239
0800	0977	3543 B		2735	15033	1216	04645	0913
1000	0598	34976		2756	14915	1377	06112	0679
1200	0485	35002		2772	14903	1499	07479	0527
1500	0424	34977		2776	14927	1655	09633	0494
2000	0373	34971		2781	14991	1901	14064	0475
2500	0346	34964		2783	15065	2144	19717	0480
3000	0302	34948		2786	15132	2384	26518	0459
3500	0266	34933		2788	15204	2614	34266	0443
4000	0237	34912		2789	15279	2839	43001	0435
4500	0225	34897		2789	15362	3066	53004	0448

C-REF-NO 355	YR 1962	DEPTH 5123	WAVES 1 13X2	AIR T 12.3	VIS 98
CONS. NO 019	MONTH 3	MXSAMPD 48	WAVES 2 3246	WET B 09.9	STN 031
LAT 37-300N	DAY 07	NO.DPTH 25	WND-DIR 130	WW-CODE 03	
LON 44-490W	HR 21.4	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1006.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
230	0000	1735	36437		2655	15163
230	0010	1770	36430		2646	15175
230	0030	1769	36419		2645	15178
230	0074	1748	36391		2648	15179
230	0099	1742	36373		2648	15181
230	0149	1733	36369		2650	15186
230	0198	1733	36362		2650	15194
230	0248	1725	36356		2651	15200
230	0297	1704	36348		2656	15202
230	0394	1602	36166		2666	15185
230	0492	1453	35914		2680	15151
230	0591	1326	35722		2692	15124
230	0690	1211	35575		2703	15099
#240	0742	1107	35436		2712	15070
#240	0930	0700	35034		2747	14944
#240	1119	0556	35077		2769	14919
#240	1401	0443	34990		2775	14919
#240	1881	0385	34972		2780	14976
#240	2372	0354	34972		2783	15046
#240	2872	0317	34958		2786	15116
#240	2877	0316	34956		2786	15117
214	3287	0280	34980		2791	15173
214	3784	0245	34920		2789	15244
214	4282	0230	34964		2794	15326
214	4782	0229	34897		2789	15414

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1735	36437		2655	15163	0000	00000	1494
0010	1770	36430		2646	15175	0016	00001	1584
0020	1776 B	36424		2644	15178	0032	00003	1605
0030	1769	36419		2645	15178	0048	00007	1597
0050	1760	36407		2646	15178	0080	00021	1592
0075	1748	36390		2648	15179	0120	00046	1584
0100	1742	36373		2648	15181	0160	00082	1591
0125	1737	36368		2649	15183	0200	00128	1591
0150	1733	36369		2650	15186	0240	00185	1591
0175	1733	36365		2650	15190	0280	00252	1601

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1733	36362		2650	15195	0321	00330	1613
0225	1730	36359		2650	15198	0361	00419	1616
0250	1724	36356		2651	15200	0402	00518	1614
0300	1702	36345		2656	15202	0483	00746	1587
0400	1593	36151		2667	15183	0639	01306	1513
0500	1442	35896		2681	15149	0786	01982	1398
0600	1318	35711		2693	15122	0922	02751	1304
0700	1192	35549		2705	15094	1049	03593	1199
0800	0970 F	3528 C		2724	15028	1160	04450	1011
1000	0628 D	3503 E		2756	14928	1332	06003	0683
1200	0514	3506 B		2773	14916	1454	07375	0527
1500	0423 B	34979		2777	14927	1609	09523	0492
2000	0376	34972		2781	14992	1856	13965	0478
2500	0345	34964		2783	15064	2100	19627	0479
3000	0306	34961		2787	15134	2338	26395	0456
3500	0263	3495 B		2790	15203	2563	33941	0423
4000	0236	3494 B		2791	15279	2778	42282	0415
4500	0227	3492 D		2790	15363	2997	51952	0438

C-REF-NO 355	YR 1962	DEPTH 4462	WAVES 1 23X2	AIR T 18.0	VIS 97
CONS. NO 020	MONTH 3	MXSAMPD 40	WAVES 2 3146	WET B 17.3	STN 032
LAT 37-300N	DAY 08	NO.DPTH 23	WND-DIR 230	WW-CODE 25	
LON 43-450W	HR 13.9	W-COLOR	WND-SPD 08	CLD-TPE 7	
MARSD SQ 113		W-TRNSP	BARO 1002.	CLD-AMT 7	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	139	0000	1707	36358		2656	15154
	139	0009	1712	36346		2654	15157
	139	0028	1706	36350		2655	15158
	139	0071	1708	36345		2654	15166
	139	0094	1708	36352	517	2655	15170
	139	0140	1690	36313	532	2656	15171
	139	0188	1675	36278	503	2657	15174
	139	0235	1635	36236		2663	15170
	139	0282	1588	36141	464	2667	15162
	139	0377	1479	35976	464	2679	15141
	139	0474	1354	35773	464	2690	15114
2	139	0572	1260	35689	458	2702	15098
	139	0670	1121	35490		2714	15064
	160	0716	1010	35345	380	2722	15030
	160	0899	0752	35209	439	2753	14962
	160	1086	0572	35083	552	2767	14920
	160	1370	0466	35033	606	2776	14924
	160	1857	0385	34990	620	2782	14972
	160	2354	0352	34976		2784	15043
	160	2850	0312	34961	680	2786	15111
	175	3471	0266	34948		2790	15199
	175	3480	0265	35030		2796	15202
	175	3973	0236	34907	620	2789	15274

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1707	36358		2656	15154	0000	00000	1488
0010	1712	36346		2654	15157	0015	00001	1511
0020	1710	36346		2654	15158	0030	00003	1509
0030	1706	36350		2655	15158	0045	00007	1501
0050	1706	36347		2655	15162	0076	00019	1510
0075	1708	36347		2654	15167	0114	00044	1524
0100	1706	36349		2655	15170	0152	00079	1526
0125	1697	36329		2656	15171	0191	00123	1528
0150	1688	36306		2656	15172	0229	00177	1532
0175	1680	36288		2657	15174	0268	00242	1536
0200	1666	36270		2659	15174	0307	00316	1526
0225	1645	36247		2662	15171	0345	00399	1502
0250	1621	36208		2665	15167	0382	00491	1484

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1569	36110		2669	15158	0457	00700	1456
0400	1449	35924		2681	15135	0599	01209	1363
0500	1330 B	3575 B		2693	15110	0732	01822	1272
0600	1229 B	35646		2705	15092	0855	02518	1176
0700	1049	35395		2719	15042	0968	03265	1045
0800	0868 E	3524 G		2737	14990	1064	04007	0869
1000	0644	35136		2762	14935	1216	05385	0628
1200	0515 C	3505 B		2772	14916	1334	06707	0532
1500	0436 B	35017		2778	14933	1488	08840	0482
2000	0373	34984		2782	14991	1728	13169	0465
2500	0340	34971		2785	15062	1965	18677	0466
3000	0300	3498 C		2789	15132	2195	25174	0432
3500	0264	3499 G		2793	15204	2408	32323	0401
4000	0235	34900		2788	15278	2623	40719	0439

C-REF-NO 355	YR 1962	DEPTH 4480	WAVES 1 21X3	AIR T 19.9	VIS 97
CONS. NO 021	MONTH 3	MXSAMPD 36	WAVES 2 46	WET B 18.2	STN 033
LAT 37-300N	DAY 08	NO.DPTH 22	WND-DIR 210	WW-CODE 01	
LON 42-400W	HR 23.7	W-COLOR	WND-SPD 12	CLD-TPE	
MARSD SQ 113		W-TRNSP	BARO 998.	CLD-AMT 0	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
237	0000	1701	36348		2656	15152
237	0009	1715	36338		2652	15158
237	0027	1712	36338		2653	15160
237	0068	1713	36334		2652	15167
237	0090	1709	36346		2654	15169
237	0136	1709	36335		2653	15177
237	0180	1709	36337		2654	15184
237	0226	1692	36311		2656	15186
237	0272	1659	36264		2660	15183
237	0364	1558	36095		2670	15165
237	0457	1417	35866		2684	15133
237	0551	1304	35711		2695	15109
237	0648	1160	35504		2707	15074
*247	0705	1096	35424		2713	15060
*247	0888	0832	35258		2745	14991
*247	1070	0710	35282		2765	14975
*247	1345	0506	35084		2776	14937
*247	1820	0396	35002		2781	14970
*247	1825	0396	35046		2785	14972
*278	2626	0330				
*278	3102	0294				
*278	3592	0253				

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1701	36348		2656	15152	0000	00000	1481
0010	1715	36338		2652	15158	0015	00001	1525
0020	1715	36336		2652	15160	0031	00003	1529
0030	1712	36337		2653	15160	0046	00007	1524
0050	1713	36334		2652	15164	0077	00020	1535
0075	1712	36338		2653	15167	0115	00045	1539
0100	1709	36345		2654	15171	0154	00079	1534
0125	1708	36339		2654	15175	0193	00124	1547
0150	1710	36336		2653	15179	0232	00180	1561
0175	1709	36337		2653	15183	0271	00245	1568
0200	1704	36329		2654	15185	0311	00321	1569
0225	1693	36312		2656	15186	0350	00407	1564
0250	1677	36289		2658	15185	0390	00503	1552

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1633	36221		2663	15179	0467	00722	1518
0400	1504 B	3601 B		2676	15153	0615	01252	1422
0500	1365	35793		2689	15122	0753	01888	1313
0600	1230 B	3560 B		2702	15091	0881	02605	1208
0700	1101	35430		2713	15061	0998	03387	1115
0800	0956 E	35317		2729	15023	1103	04191	0959
1000	0749 C	3527 C		2758	14978	1270	05709	0691
1200	0609 C	3520 D		2772	14955	1396	07128	0558
1500	0465							
2000	0369							
2500	0330							
3000	0302							
3500	0260							

C-REF-NO 355	YR 1962	DEPTH 4471	WAVES 1 20X6	AIR T 18.4	VIS 97
CONS. NO 022	MONTH 3	MXSAMPD 05	WAVES 2 XX	WET B 16.4	STN 034
LAT 37-300N	DAY 09	NO.DPTH 9	WND-DIR 200	WW-CODE 02	
LON 41-330W	HR 09.0	W-COLOR	WND-SPD 23	CLD-TPE 5	
MARSD SQ 113		W-TRNSP	BARO 999.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
090	0000	1725	36415		2656	15160
090	0009	1736	36398		2652	15165
090	0055	1738	36389		2651	15173
090	0100	1736	36389	508	2651	15179
090	0147	1736	36385	513	2651	15187
090	0240	1729	36371	519	2651	15200
090	0336	1682	36264	508	2654	15201
090	0433	1628	36220	459	2664	15200
090	0530	1470	35968	464	2680	15163

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1725	36415		2656	15160	0000	00000	1487
0010	1736	36398		2652	15165	0015	00001	1529
0020	1736	36396		2651	15166	0031	00003	1534
0030	1737	36395		2651	15168	0046	00007	1539
0050	1737	36392		2651	15171	0077	00020	1549
0075	1737	36389		2651	15176	0116	00045	1560
0100	1736	36389		2651	15179	0156	00080	1566
0125	1736	36387		2651	15183	0195	00126	1576
0150	1736	36385		2651	15188	0235	00182	1586
0175	1736	36386		2651	15192	0275	00249	1595
0200	1735	36383		2651	15195	0315	00327	1602
0225	1732	36377		2651	15198	0356	00415	1608
0250	1725	36361		2651	15200	0396	00514	1612
0300	1702	3631 B		2653	15201	0478	00744	1616
0400	1653 B	3624 C		2660	15202	0639	01322	1580
0500	1520 B	3604 C		2675	15175	0792	02029	1462

C-REF-NO 355	YR 1962	DEPTH 4407	WAVES 1 32X3	AIR T 14.6	VIS 98
CONS. NO 023	MONTH 3	MXSAMPD 41	WAVES 2 49XX	WET B 10.8	STN 034
LAT 37-300N	DAY 10	NO.DPTH 16	WND-DIR 320	WW-CODE 01	
LON 41-330W	HR 11.3	W-COLOR	WND-SPD 11	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1009.	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
113	0000	1705	36406		2660	15154
113	0028	1741	36413		2652	15169
113	0188	1744	36402	513	2650	15196
113	0573	1426	35873	423	2682	15155
113	0670	1256	35637		2699	15112
113	0768	1083	35409	365	2714	15065
113	0962	0686	35070	458	2751	14945
122	1125	0571	35105	571	2769	14927
122	1418	0489	35096	542	2779	14942
122	1911	0385	35000	612	2782	14981
122	1916	0385	34967		2780	14982
122	2408	0342	34977		2785	15047
138	2836	0299	34951	612	2787	15102
138	3320	0269	34988		2793	15174
138	3812	0238	34908	610	2789	15246
138	4108	0231	34904		2789	15295

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1705	36406		2660	15154	0000	00000	1448
0010	1714 B	36409		2658	15158	0015	00001	1470
0020	1723 C	36412		2656	15163	0030	00003	1492
0030	1742	36414		2651	15170	0045	00007	1537
0050	1748	36418		2650	15175	0076	00020	1555
0075	1754	36421		2649	15181	0115	00045	1575
0100	1757 B	36421		2648	15186	0155	00081	1592
0125	1759 B	36418		2648	15190	0196	00128	1606
0150	1758 C	36412		2647	15194	0236	00185	1617
0175	1755 C	36403		2647	15197	0277	00253	1626
0200	1742	36396		2650	15198	0318	00331	1609
0225	1736	36381		2650	15200	0358	00420	1614
0250	1728 B	36363		2651	15201	0399	00519	1616
0300	1705 B	36318		2653	15202	0480	00749	1612
0400	1633 C	36195		2661	15195	0641	01325	1569
0500	1526 B	36026		2672	15177	0795	02035	1485
0600	1381	35809		2687	15144	0939	02845	1362
0700	1204	35565		2704	15098	1069	03709	1211
0800	1010 D	3533 B		2721	15044	1183	04584	1042
1000	0648 B	3507 C		2756	14936	1357	06165	0685

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
1200	0542 B	35109		2773	14927	1480	07539	0528
1500	0468	35070		2779	14947	1635	09677	0487
2000	0373	3498 C		2782	14991	1878	14062	0472
2500	0332	34970		2785	15059	2114	19532	0455
3000	0288	3497 B		2789	15126	2339	25892	0425
3500	0256	3496 B		2791	15200	2551	33042	0408
4000	0234	3492 B		2790	15278	2766	41377	0428

C-REF-NO 355	YR 1962	DEPTH 4297	WAVES 1 35X4	AIR T 14.2	VIS 98
CONS. NO 024	MONTH 3	MXSAMPD 36	WAVES 2 3046	WET B 10.3	STN 035
LAT 37-278N	DAY 10	NO.DPTH 23	WND-DIR 250	WW-CODE 02	
LON 40-048W	HR 20.3	W-COLOR	WND-SPD 08	CLD-TPE 5	
MARSD SQ 113		W-TRNSP	BARO 1010.	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
226	0000	1593	36247		2674	15118
226	0010	1578	36153		2670	15114
226	0028	1577	36161		2671	15117
226	0070	1576	36159		2671	15123
226	0094	1570	36151		2672	15125
226	0141	1570	36139		2671	15133
226	0188	1566	36134		2671	15139
226	0236	1562	36134		2672	15146
226	0284	1419	35865		2683	15105
226	0381	1314	35706		2693	15085
226	0478	1198	35543		2703	15059
226	0576	1071	35419		2717	15030
226	0674	0871	35173		2732	14969
217	0758	0720	35107		2750	14925
217	0953	0603	35146		2768	14912
217	1147	0459	35000		2774	14883
217	1442	0442	35036		2779	14926
217	1447	0442	35034		2779	14927
217	1974	0368	34980		2782	14985
203	2245	0347	34982		2785	15022
203	2708	0305	34956		2787	15083
203	3177	0274	34961		2790	15152
203	3648	0243	34924		2790	15220

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1593	36247		2674	15118	0000	00000	1314
0010	1578	36153		2670	15114	0013	00001	1353
0020	1575	3614 C		2670	15115	0027	00003	1357
0030	1577	36161		2671	15117	0041	00006	1351
0050	1577	36163		2671	15120	0068	00018	1357
0075	1575	36157		2671	15124	0102	00040	1363
0100	1570	36149		2672	15126	0137	00070	1366
0125	1569	36142		2671	15130	0171	00110	1379
0150	1569	36138		2671	15134	0206	00160	1390
0175	1567	36135		2671	15138	0241	00218	1396
0200	1572 B	3615 B		2671	15143	0276	00286	1404
0225	1569 B	3615 B		2672	15147	0312	00364	1407
0250	1524 D	3606 D		2675	15136	0347	00449	1378

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1394 C	3582 C		2685	15099	0414	00639	1294
0400	1292	35673		2695	15080	0542	01094	1226
0500	1173	35519		2706	15054	0661	01643	1135
0600	1024 B	3536 B		2721	15016	0769	02252	1007
0700	0820	35143		2738	14954	0862	02872	0842
0800	0682 E	3511 C		2755	14917	0939	03458	0671
1000	0565 B	3511 C		2771	14903	1061	04571	0531
1200	0457	35010		2775	14892	1164	05733	0485
1500	0437	35036		2780	14934	1309	07750	0469
2000	0366	34980		2783	14988	1544	11993	0458
2500	0324	34968		2786	15055	1774	17318	0444
3000	0285	34960		2789	15125	1996	23609	0425
3500	0252	34932		2790	15198	2212	30875	0420

C-REF-NO 355 YR 1962 DEPTH 4535 WAVES 1 23X2 AIR T. 12.6 VIS 98
 CONS. NO 025 MONTH 3 MXSAMPD 42 WAVES 2 2942 WET B 09.3 STN 036
 LAT 38-062N DAY 11 NO.DPTH 23 WND-DIR 230 WW-CODE 01
 LON 40-180W HR 03.3 W-COLOR WND-SPD 13 CLD-TPE 2
 MARSD SQ 113 W-TRNSP BARO 1011. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
047	0000	1518	36116		2681	15093
047	0010	1543	36097		2674	15103
047	0029	1544	36095		2673	15106
047	0071	1546	36097		2673	15113
047	0094	1546	36101	538	2673	15117
047	0142	1542	36097	547	2674	15124
047	0190	1527	36064	532	2675	15127
047	0238	1388	35814		2686	15087
047	0286	1343	35740	464	2690	15079
047	0384	1196	35542	444	2704	15043
047	0484	1024	35320	384	2718	14996
047	0584	0880	35185	370	2731	14958
057	0684	0724	35139		2751	14914
057	0786	0655	35147	478	2762	14904
057	0984	0528	35092	552	2774	14886
057	1180	0451	35017	591	2777	14886
057	1476	0396	34980	620	2780	14912
057	1970	0355	34961	641	2782	14978
057	2470	0322	34957		2785	15050
033	2885	0287	34945	620	2787	15106
033	3373	0250	34930		2790	15175
033	3863	0228	34904	612	2789	15251
033	4158	0226	34902		2789	15303

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1518	36116		2681	15093	0000	00000	1248
0010	1543	36097		2674	15103	0013	00001	1318
0020	1547 B	36093		2673	15105	0026	00003	1333
0030	1544	36095		2673	15106	0040	00006	1328
0050	1545	36095		2673	15110	0067	00017	1337
0075	1546	36098		2673	15114	0100	00039	1345
0100	1546	36102		2674	15118	0134	00069	1349
0125	1544	36101		2674	15122	0168	00109	1354
0150	1544 B	36100		2674	15126	0203	00157	1363
0175	1539 B	3609 B		2674	15128	0237	00215	1368
0200	1499 C	3601 C		2677	15119	0271	00280	1345
0225	1427 D	3588 C		2683	15098	0304	00353	1296
0250	1373 B	3579 B		2687	15084	0337	00432	1262

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1325	35714		2691	15075	0400	00609	1233
0400	1168	35504		2706	15036	0518	01032	1112
0500	1000	35292		2720	14990	0624	01519	0990
0600	0853	35173		2735	14950	0717	02042	0853
0700	0710	35139		2753	14912	0794	02554	0676
0800	0645	35145		2763	14903	0859	03048	0593
1000	0520	35086		2774	14885	0968	04053	0491
1200	0446	35013		2777	14887	1066	05151	0468
1500	0393	34978		2780	14915	1206	07098	0453
2000	0353	34961		2782	14982	1436	11258	0454
2500	0320	34956		2785	15054	1665	16580	0446
3000	0277	34942		2788	15122	1888	22897	0426
3500	0242	34922		2790	15194	2102	30104	0413
4000	0227	34905		2790	15275	2316	38430	0423

C-REF-NO 355 YR 1962 DEPTH 4233 WAVES 1 23X4 AIR T 14.4 VIS 98
 CONS. NO 026 MONTH 3 MXSAMPD 39 WAVES 2 3682 WET B 09.6 STN 037
 LAT 38-320N DAY 11 NO.DPTH 22 WND-DIR 230 WW-CODE 02
 LGN 40-360W HR 10.3 W-COLOR WND-SPD 11 CLD-TPE 8
 MARSD SQ 113 W-TRNSP BARO 1008. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
103	0000	1530	36113		2678	15097
103	0010	1536	36106		2676	15100
103	0030	1535	36101		2676	15103
103	0074	1534	36086		2675	15110
103	0099	1531	36073		2675	15113
103	0148	1530	36070		2675	15121
103	0198	1530	36075		2675	15129
103	0247	1414	35854		2683	15097
103	0297	1303	35686		2694	15067
103	0396	1179	35516		2705	15039
103	0495	1025	35328		2718	14998
103	0594	0832	35139		2735	14941
103	0693	0701	35113		2753	14907
112	0760	0658	35138		2761	14901
112	0953	0537	35086		2772	14884
112	1147	0471	35050		2777	14889
112	1440	0400	34976		2779	14908
112	1931	0364	34976		2783	14975
112	2424	0333	34968		2785	15046
124	2905	0293	34942		2787	15112
124	3396	0255	34940		2790	15181
124	3889	0231	34904		2789	15257

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1530	36113		2678	15097	0000	00000	1275
0010	1536	36106		2676	15100	0013	00001	1297
0020	1537	36103		2676	15102	0026	00003	1303
0030	1535	36101		2676	15103	0039	00006	1304
0050	1535	36095		2676	15107	0066	00017	1314
0075	1534	36085		2675	15110	0099	00038	1328
0100	1531	36073		2675	15113	0132	00068	1338
0125	1530	36069		2675	15117	0166	00108	1347
0150	1531	36072		2675	15121	0200	00156	1355
0175	1537 C	3609 C		2674	15128	0235	00213	1366
0200	1526	36068		2675	15128	0269	00279	1363
0225	1473 C	3596 C		2679	15114	0303	00353	1333
0250	1407	35842		2684	15095	0336	00434	1291
0300	1299	35679		2694	15066	0399	00611	1207

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1173	35509		2705	15038	0516	01031	1118
0500	1015	35317		2719	14996	0623	01522	0997
0600	0822	35134		2737	14938	0716	02040	0833
0700	0696	35115		2754	14906	0792	02545	0673
0800	0630	3513 B		2764	14897	0855	03032	0581
1000	0518	35077		2774	14884	0964	04030	0494
1200	0456	35035		2778	14891	1061	05126	0464
1500	0393	34972		2779	14915	1201	07075	0457
2000	0360	34976		2783	14985	1432	11242	0452
2500	0327	34964		2785	15057	1662	16593	0452
3000	0285	34942		2787	15125	1889	23037	0437
3500	0251	3493 B		2789	15197	2110	30439	0424

C-REF-NO 355	YR 1962	DEPTH 4792	WAVES 1 23X4	AIR T 15.9	VIS 98
CONS. NO 027	MONTH 3	MXSAMPD 45	WAVES 2 2726	WET B 12.4	STN 038
LAT 39-190N	DAY 11	NO.DPTH 23	WND-DIR 200	WW-CODE 02	
LON 40-530W	HR 16.4	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1006.	CLD-AMT 7	HW

O B S E R V E D

. GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
192	0000	1586	36221		2674	15116
192	0010	1604	36216		2669	15123
192	0030	1602	36221		2670	15126
192	0075	1596	36204		2670	15131
192	0100	1576	36156	558	2671	15128
192	0150	1548	36105		2673	15127
192	0200	1543	36079	553	2672	15134
192	0250	1458	35915		2679	15113
192	0300	1411	35853	439	2684	15105
192	0400	1284	35666	449	2696	15077
192	0500	1152	35484	423	2707	15046
192	0600	0973	35261	358	2722	14996
192	0700	0803	35103		2737	14947
178	0762	0744	35093	413	2745	14935
178	0953	0714	35311	468	2766	14958
178	1144	0557	35296	478	2786	14927
178	1434	0460	35086	549	2781	14933
178	1920	0374	34983	628	2782	14978
178	2412	0338	34952		2783	15046
178	2905	0296	34950	633	2787	15114
164	3500	0253	34935		2790	15199
164	4000	0232	34920	623	2790	15277
164	4500	0230	34897		2789	15365

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1586	36221		2674	15116	0000	00000	1317
0010	1604	36216		2669	15123	0014	00001	1364
0020	1606	36218		2669	15125	0027	00003	1370
0030	1602	36221		2670	15126	0041	00006	1362
0050	1602	36221		2670	15129	0069	00018	1368
0075	1596	36204		2670	15131	0103	00040	1376
0100	1576	36156		2671	15128	0138	00071	1375
0125	1560	36125		2672	15127	0172	00111	1370
0150	1548	36105		2673	15127	0207	00160	1367
0175	1549 B	3610 B		2673	15132	0241	00217	1382
0200	1543	36079		2672	15133	0276	00285	1391
0225	1503 C	3600 C		2675	15124	0311	00361	1371
0250	1458	35915		2679	15113	0345	00444	1345

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1411	35853		2684	15105	0412	00633	1307
0400	1284	35666		2696	15077	0540	01088	1215
0500	1152	35484		2707	15046	0657	01631	1121
0600	0973	35261		2722	14996	0764	02230	0987
0700	0803	35103		2737	14947	0857	02845	0844
0800	0734 E	3513 D		2749	14937	0936	03458	0735
1000	0678 C	35323		2772	14951	1066	04635	0541
1200	0530 B	3526 B		2787	14925	1161	05702	0401
1500	0444	3506 B		2781	14937	1292	07542	0461
2000	0367	34974		2782	14988	1527	11780	0463
2500	0331	34951		2784	15058	1764	17279	0466
3000	0288	34948		2788	15126	1994	23822	0438
3500	0253	34935		2790	15198	2214	31196	0420
4000	0232	34920		2790	15277	2430	39578	0421
4500	0230	34897		2789	15364	2655	49532	0456

C-REF-NO 355	YR 1962	DEPTH 4828	WAVES 1 08X3	AIR T 13.6	VIS 98
CONS. NO 028	MONTH 3	MXSAMPD 25	WAVES 2 0882	WET B 11.7	STN 039
LAT 39-550N	DAY 12	NO.DPTH 15	WND-DIR 080	WW-CODE 03	
LON 41-130W	HR 00.3	W-COLOR	WND-SPD 10	CLD-TPE 0	
MARSD SQ 113		W-TRNSP	BARO 1003.	CLD-AMT 8	HW

O B S E R V E D

	GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
	003	0000	1587	36244		2675	15116
	003	0010	1597	36197		2669	15120
	003	0030	1595	36201		2670	15123
	003	0074	1586	36173		2670	15127
	003	0098	1579	36149		2670	15129
	003	0148	1584	36165		2670	15139
	003	0197	1570	36122		2670	15142
	003	0246	1558	36092		2670	15146
1	003	0295	1493	35986		2676	15132
	012	0783	0803	35174		2743	14962
	012	0982	0609	35107		2765	14918
	012	1182	0523	35100		2775	14917
	012	1482	0422	35000		2778	14924
	012	1982	0373	34962		2781	14988
	012	2466	0343	34964		2784	15058

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1587	36244		2675	15116	0000	00000	1303
0010	1597	36197		2669	15120	0013	00001	1362
0020	1598	3619 B		2669	15122	0027	00003	1371
0030	1595	36201		2670	15123	0041	00006	1361
0050	1592	36193		2670	15125	0068	00018	1366
0075	1586	36172		2670	15127	0103	00040	1377
0100	1579	36149		2670	15129	0138	00071	1387
0125	1581	3616 B		2670	15134	0173	00112	1395
0150	1584	36164		2670	15139	0208	00161	1402
0175	1577	36144		2670	15141	0243	00221	1411
0200	1570	36121		2670	15142	0279	00289	1419
0225	1566	36109		2669	15145	0315	00368	1428
0250	1554	36085		2670	15145	0351	00455	1426
0300	1511 H	3601 F		2675	15139	0422	00657	1401
0400	1423 I	3589 I		2684	15126	0560	01152	1338
0500	1304 I	3573 I		2697	15101	0690	01749	1234
0600	1155 I	3556 I		2712	15065	0808	02412	1099
0700	0975 G	3536 E		2729	15015	0911	03097	0943
0800	0783	35164		2745	14957	0999	03768	0786
1000	0599	35106		2766	14917	1137	05032	0584
1200	0516	35095		2775	14917	1247	06270	0502

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
1500	0419	34997		2779	14926	1396	08328	0474
2000	0352 G	3494 C		2781	14981	1634	12625	0465
2500	0345	34969		2784	15064	1873	18189	0475

C-REF-NO 355 YR 1962 DEPTH 5158 WAVES 1 30X3 AIR T 08.2 VIS 98
 CONS. NO 029 MONTH 3 MXSAMPD 48 WAVES 2 2846 WET B 05.3 STN 007
 LAT 41-580N DAY 17 NO.DPTH 20 WND-DIR 300 WW-CODE 02
 LON 54-315W HR 16.3 W-COLOR WND-SPD 11 CLD-TPE 2
 MARSD SQ 150 W-TRNSP BARO 999. CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
178	0000	1144	35379		2701	14960
178	0010	1212	35380		2688	14985
178	0029	1210	35374		2688	14988
178	0072	1208	35373		2688	14994
178	0097	1210	35376	532	2688	14999
178	0145	1204	35360	570	2688	15004
178	0194	1202	35356	571	2688	15012
178	0243	1196	35340		2688	15018
178	0292	1085	35290	380	2705	14986
178	0390	0843	35108	345	2731	14911
178	0489	0425	34516	581	2740	14753
178	0588	0517	34819	538	2753	14812
178	0687	0519	34964		2765	14831
178	0786	0468	34964	577	2770	14826
203	0944	0419	34941	620	2774	14832
203	1135	0408	34963	633	2777	14860
203	1424	0375	34944	633	2779	14894
163	3860	0233	34907	638	2789	15253
163	4345	0227	34905		2790	15336
163	4830	0225	34902	628	2789	15422

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1144	35379		2701	14960	0000	00000	1059
0010	1212	35380		2688	14985	0011	00001	1184
0020	1222 D	35377		2686	14990	0023	00002	1206
0030	1210	35374		2688	14988	0035	00006	1190
0050	1208	35372		2688	14990	0059	00015	1194
0075	1208	35373		2688	14995	0090	00035	1199
0100	1210	35375		2688	14999	0120	00062	1207
0125	1207	35368		2688	15002	0150	00097	1214
0150	1204	35360		2688	15005	0181	00141	1220
0175	1203	35358		2688	15009	0212	00192	1226
0200	1204	35355		2688	15013	0243	00252	1237
0225	1205 B	35349		2687	15018	0274	00320	1249
0250	1184	35335		2690	15014	0305	00396	1227
0300	1069	35285		2707	14982	0363	00559	1069
0400	0793 E	3504 E		2733	14893	0459	00896	0824
0500	0425 E	3453 D		2741	14755	0537	01256	0728

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0521	34845		2755	14816	0605	01639	0621
0700	0513	34968		2766	14831	0664	02027	0532
0800	0462	34962		2771	14826	0715	02422	0484
1000	0413	34946		2775	14839	0810	03300	0456
1200	0401	34961		2778	14868	0902	04338	0448
1500	0367	34941		2779	14903	1038	06233	0447
2000	0322 B	3492 B		2782	14969	1263	10289	0439
2500	0286 B	3491 C		2785	15039	1484	15425	0430
3000	0259 B	3491 C		2787	15113	1702	21621	0424
3500	0240 B	3490 B		2788	15193	1919	28905	0422
4000	0231	34906		2789	15276	2137	37384	0428
4500	0225	34904		2790	15362	2361	47260	0443

C-REF-NO 355	YR 1962	DEPTH 4636	WAVES 1 23X2	AIR T 07.1	VIS 98
CONS. NO 030	MONTH 3	MXSAMPD 44	WAVES 2 3642	WET B 04.3	STN 006
LAT 42-295N	DAY 18	NO.DPTH 23	WND-DIR 230	WW-CODE 02	
LON 54-000W	HR 00.5	W-COLOR	WND-SPD 11	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 995.	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
005	0000	1218	35459		2693	14987
005	0010	1228	35471		2692	14992
005	0029	1226	35466		2692	14994
005	0073	1230	35465		2691	15003
005	0097	1230	35470		2691	15007
005	0146	1228	35462		2691	15014
005	0196	1230	35462		2691	15023
005	0245	1228	35456		2691	15030
005	0294	1230	35460		2691	15039
005	0393	0958	35206		2720	14956
005	0491	0761	35051		2739	14896
005	0590	0576	34946		2756	14838
005	0689	0506	34967		2766	14826
064	0788	0448	34929		2770	14818
064	0987	0433	34969		2775	14845
075	1186	0417	34984		2778	14872
075	1485	0390	34979		2780	14911
075	1983	0360	34969		2782	14982
075	2482	0332	34964		2785	15056
025	2985	0290	34948		2787	15124
025	3485	0256	34986		2794	15197
025	3950	0230	34911		2790	15267
025	4445	0227	34913		2790	15353

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1218	35459		2693	14987	0000	00000	1134
0010	1228	35471		2692	14992	0011	00001	1147
0020	1229	35470		2692	14994	0023	00002	1151
0030	1226	35466		2692	14994	0035	00005	1152
0050	1227	35464		2691	14998	0058	00015	1162
0075	1230	35465		2691	15003	0087	00034	1172
0100	1230	35470		2691	15007	0117	00060	1175
0125	1229	35466		2691	15011	0147	00095	1182
0150	1228	35462		2691	15015	0177	00137	1191
0175	1229	35462		2691	15019	0207	00187	1199
0200	1230	35461		2691	15024	0237	00246	1207
C225	1229	35458		2691	15027	0267	00312	1214
C250	1230	35458		2690	15032	0298	00387	1223

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1218 B	35448		2692	15036	0360	00561	1220
0400	0943	35192		2722	14951	0469	00947	0944
0500	0742	35038		2741	14889	0555	01342	0764
0600	0566	34947		2757	14835	0624	01728	0603
0700	0498	34963		2767	14825	0681	02105	0517
0800	0445	34930		2770	14819	0732	02495	0487
1000	0432	34971		2775	14847	0828	03382	0461
1200	0416	34984		2778	14874	0920	04426	0450
1500	0389	34979		2780	14913	1057	06325	0447
2000	0359	34969		2782	14985	1286	10476	0456
2500	0331	34963		2785	15058	1519	15886	0458
3000	0289	34950		2788	15127	1747	22372	0438
3500	0255	34984		2793	15200	1959	29456	0389
4000	0232	3494 E		2792	15277	2163	37387	0406

C-REF-NO 355	YR 1962	DEPTH 3695	WAVES 1 28X3	AIR T 04.9	VIS 98
CONS. NO 031	MONTH 3	MXSAMPD 35	WAVES 2 2826	WET B 03.3	STN 005
LAT 43-000N	DAY 18	NO.DPTH 21	WND-DIR 280	WW-CODE 03	
LON 53-325W	HR 11.9	W-COLOR	WND-SPD 18	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 994.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
119	0000	1228	35583		2701	14992
119	0010	1253	35579		2695	15002
119	0030	1251	35570		2695	15004
119	0075	1253	35588		2696	15013
119	0099	1254	35575	542	2695	15017
119	0149	1255	35570	542	2694	15025
119	0198	1258	35580	547	2694	15034
119	0248	1256	35577		2695	15042
119	0289	1223	35471	374	2693	15036
119	0396	0890	35135	330	2726	14930
119	0486	0606	34846	458	2744	14831
119	0595	0588	35007	473	2759	14844
119	0694	0525	35013		2768	14835
125	0761	0493	35002	542	2771	14833
125	0959	0431	34974	596	2775	14840
125	1158	0407	34962	612	2777	14863
125	1456	0388	34958	620	2779	14905
125	1954	0361	34965	641	2782	14978
137	2472	0328	34964		2785	15052
137	2970	0282	34946	631	2788	15118
137	3468	0235	34930	641	2791	15185

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1228	35583		2701	14992	0000	00000	1062
0010	1253	35579		2695	15002	0011	00001	1114
0020	1256 B	35574		2694	15004	0022	00002	1126
0030	1251	35570		2695	15004	0034	00005	1122
0050	1251	35578		2696	15008	0056	00015	1122
0075	1253	35588		2696	15013	0084	00033	1125
0100	1254	35575		2695	15017	0113	00058	1143
0125	1254	35570		2694	15021	0142	00092	1155
0150	1255	35570		2694	15025	0171	00133	1162
0175	1257	35575		2694	15030	0201	00182	1168
0200	1258	35581		2694	15035	0230	00239	1174
0225	1260	3559 B		2695	15039	0260	00304	1178
0250	1255	35573		2694	15042	0290	00377	1187
0300	1197 C	35439		2695	15028	0349	00546	1188
0400	0875	35118		2727	14925	0454	00915	0890

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0500	0595 D	3486 C		2747	14829	0534	01281	0695
0600	0585	35009		2760	14844	0599	01643	0582
0700	0522	35012		2768	14835	0654	02010	0510
0800	0477	34996		2772	14833	0704	02395	0478
1000	0424	34971		2776	14844	0798	03264	0451
1200	0404	34961		2777	14869	0890	04300	0452
1500	0386	34958		2779	14911	1028	06227	0458
2000	0358	34965		2782	14985	1261	10428	0458
2500	0326	34963		2785	15056	1492	15797	0450
3000	0281	34948		2788	15124	1716	22154	0428
3500	0232	34929		2791	15189	1925	29176	0391

C-REF-NO 355 YR 1962 DEPTH 3292 WAVES 1 28X3 AIR T 04.8 VIS 97
 CONS. NO 032 MONTH 3 MXSAMPD 20 WAVES 2 2882 WET B 04.2 STN 004
 LAT 43-180N DAY 18 NO.DPTH 18 WND-DIR 300 WW-CODE 80
 LON 53-200W HR 16.6 W-COLOR WND-SPD 16 CLD-TPE 8
 MARSD SQ 150 W-TRNSP BARO 995. CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
166	0000	1231	35565		2699	14992
166	0010	1260	35567		2693	15004
166	0030	1257	35560		2693	15006
166	0074	1257	35563		2693	15013
166	0098	1258	35564		2693	15018
166	0148	1260	35564		2693	15027
166	0198	1264	35572		2693	15036
166	0247	1262	35566		2693	15044
166	0296	1107	35350		2705	14995
166	0395	0854	35061		2726	14915
166	0494	0726	35038		2743	14882
166	0594	0552	34911		2756	14828
166	0693	0532	35007		2766	14838
166	0792	0488	35023		2773	14836
172	0982	0411	34954		2776	14835
172	1178	0402	34961		2777	14864
172	1475	0378	34948		2779	14904
172	1973	0362	34958		2781	14981

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1231	35565		2699	14992	0000	00000	1080
0010	1260	35567		2693	15004	0011	00001	1136
0020	1263 B	35564		2692	15007	0023	00002	1147
0030	1257	35560		2693	15006	0034	00005	1141
0050	1256	35560		2693	15009	0057	00015	1145
0075	1257	35563		2693	15014	0086	00033	1151
0100	1258	35564		2693	15018	0115	00060	1159
0125	1259	35564		2693	15022	0145	00093	1167
0150	1260	35564		2693	15027	0174	00135	1176
0175	1262	35569		2693	15032	0204	00185	1184
0200	1265	35574		2692	15037	0234	00242	1193
0225	1273 C	3558 B		2692	15044	0264	00309	1207
0250	1254	35555		2693	15041	0294	00383	1199
0300	1095	35334		2706	14991	0352	00544	1079
0400	0847	35058		2727	14913	0451	00897	0890
0500	0714	35029		2744	14879	0533	01271	0731
0600	0549	34915		2757	14828	0600	01650	0605
0700	0529	35010		2767	14838	0657	02028	0521

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0800	0484	35021		2773	14836	0707	02413	0468
1000	0409	34953		2776	14837	0800	03266	0445
1200	0400	34960		2778	14867	0890	04292	0448
1500	0382 B	3496 B		2779	14910	1027	06202	0454
2000	0361	34958		2781	14986	1261	10433	0467

C-REF-NO 355	YR 1962	DEPTH 1554	WAVES 1 30X3	AIR T 05.6	VIS 97
CONS. NO 033	MONTH 3	MXSAMPD 15	WAVES 2 2926	WET B 03.3	STN 003
LAT 43-340N	DAY 18	NO.DPTH 17	WND-DIR 300	WW-CODE 85	
LON 52-560W	HR 20.0	W-COLOR	WND-SPD 13	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 996.	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
200	0000	0603	33913		2671	14738
200	0010	0597	33869		2669	14736
200	0029	0969	34671		2677	14893
200	0072	1199	35361		2689	14991
200	0096	1201	35378	558	2690	14996
200	0145	1200	35369	563	2689	15003
200	0194	1164	35302	568	2691	14998
200	0243	1215	35454		2693	15025
200	0293	1051	35310	324	2712	14974
200	0392	0764	34979	389	2733	14880
200	0492	0646	35014	439	2752	14850
200	0591	0552	35007	508	2764	14829
200	0691	0462	34947		2770	14808
206	0786	0455	34972	584	2773	14821
206	0980	0415	34946	628	2775	14836
206	1177	0399	34950	638	2777	14863
206	1474	0365	34919	647	2778	14898

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0603	33913		2671	14738	0000	00000	1340
0010	0597	33869		2669	14736	0014	00001	1367
0020	0772 I	3424 I		2674	14812	0027	00003	1319
0030	0981	34701		2677	14898	0040	00006	1291
0050	1152 I	3516 G		2682	14968	0066	00017	1249
0075	1202	35371		2689	14992	0097	00036	1189
0100	1202	35379		2690	14996	0127	00063	1189
0125	1203	35380		2690	15001	0157	00098	1197
0150	1195	35358		2689	15002	0187	00141	1205
0175	1175 C	3532 C		2690	14999	0217	00191	1204
0200	1174 C	3532 B		2691	15002	0248	00250	1204
0225	1203 F	3540 E		2691	15018	0278	00316	1207
0250	1198 B	3544 B		2695	15021	0308	00389	1174
0300	1027	3528 B		2714	14967	0363	00543	0999
0400	0751	3498 B		2735	14876	0454	00866	0807
0500	0638	35015		2754	14848	0527	01198	0634
0600	0542	35001		2765	14826	0586	01529	0532
0700	0460	34948		2770	14808	0637	01870	0480
0800	0452	34971		2773	14822	0685	02238	0465

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
1000	0413	34946		2775	14839	0778	03100	0455
1200	0390 B	3494 B		2777	14862	0870	04141	0452
1500	0363	34917		2778	14902	1008	06070	0459

C-REF-NO 355	YR 1962	DEPTH 960	WAVES 1 30X3	AIR T 01.5	VIS 97
CONS. NO 034	MONTH 3	MXSAMPD 08	WAVES 2 3026	WET B 00.2	STN 002
LAT 43-520N	DAY 18	NO.DPTH 14	WND-DIR 300	WW-CODE 83	
LON 52-390W	HR 23.6	W-COLOR	WNO-SPD 12	CLD-TPE 0	
MARSD SQ 150		W-TRNSP.	BARO 999.	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
236	0000	0209	32707		2615	14555
236	0010	0164	32677		2616	14537
236	0029	0162	32671		2616	14539
236	0072	0428	33398		2651	14671
236	0096	0825	34376		2677	14846
236	0145	0901	34923		2708	14890
236	0194	0662	34671		2723	14803
236	0244	0573	34683		2736	14776
236	0293	0598	34790		2741	14795
236	0391	0494	34797		2754	14769
236	0490	0467	34893		2765	14776
236	0589	0490	35004		2771	14803
236	0689	0451	34981		2774	14803
236	0788	0428	34964		2775	14810

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0209	32707		2615	14555	0000	00000	1870
0010	0164	32677		2616	14537	0019	00001	1863
0020	0152	3266 B		2615	14532	0038	00004	1870
0030	0163	32675		2616	14539	0056	00009	1864
0050	0233 D	3288 C		2627	14576	0093	00024	1758
0075	0479 D	3352 D		2655	14694	0134	00049	1501
0100	0856 D	3447 D		2680	14860	0169	00081	1280
0125	0949 I	3487 I		2695	14904	0199	00115	1137
0150	0880 D	3491 D		2710	14883	0226	00153	1003
0175	0764 I	3480 I		2719	14842	0251	00194	0917
0200	0644	34663		2725	14797	0273	00237	0860
0225	0591	3466 B		2731	14780	0294	00282	0800
0250	0574 B	34695		2737	14778	0313	00330	0754
0300	0593 B	34794		2742	14794	0350	00434	0711
0400	0489	34804		2755	14769	0416	00667	0589
0500	0470	34907		2766	14779	0471	00919	0500
0600	0487	35005		2772	14804	0520	01193	0460
0700	0461 D	3500 D		2774	14810	0565	01497	0441

C-REF-NO 355 YR 1962 DEPTH 97 WAVES 1 28X3 AIR T 01.9 VIS 97
 CONS. NO 035 MONTH 3 MXSAMPD 01 WAVES 2 3082 WET B 00.5 STN 001
 LAT 44-060N DAY 19 NO.DPTH 7 WND-DIR 280 WW-CODE 01
 LON 52-250W HR 01.3 W-COLOR WND-SPD 11 CLD-TPE 8
 MARSD SQ 150 W-TRNSP BARO 1000. CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
013	0000	0157	32573	803	2608	14530
013	0009	0130	32556	803	2609	14520
013	0017		32558	803		
013	0026	0129	32561	803	2609	14522
013	0043	0129	33316	806	2670	14535
013	0065	0128	33671	803	2698	14543
013	0078	0523	34896	601	2759	14731

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0157	32573		2608	14530	0000	00000	1937
0010	0129	32556		2609	14519	0019	00001	1933
0020	0126 B	3254 C		2608	14519	0039	00004	1940
0030	0129	3271 I		2621	14525	0058	00009	1813
0050	0083 I	3335 I		2675	14516	0089	00021	1302
0075	0441 I	3467 I		2750	14694	0113	00035	0602

REFERENCES

- Knudsen, K. , 1901 Hydrographischen Tabellen. Copenhagen, 63 pp.
- Ekman. V. W. , 1908 Die Zusammendrückbarkeit des Meerwassers nebst
einigen Werten für Wasser und Quecksilber.
Publ. Circ. Cons. Explor. Mer. , No. 43, 47 pp.
- Strickland, J. D. H. MS, 1958. Standard methods of seawater analyses.
Volume II. Fish. Res. Bd. Canada, MS Rept. Oceanogr.
and Limnol. , No. 19, 78 pp.
- Strickland, J. D. H. and Parsons, T. R. , 1960. A manual of seawater analysis.
Bull. Fish. Res. Bd. Canada, No. 125, 185 pp.
- Wilson, W. D. , 1960 Equation for the speed of sound in seawater. Journ.
Accoust. Soc. , America 32 (10); p. 1357.
- Rattray, M. Jr , 1962 Interpolation errors and oceanographic sampling.
Deep Sea Research. vol. 9, pp 25 to 37.
- Sauer, C. D. , and Fofonoff, N. P. Oceans II, a computer program
for processing oceanographic data (Publication pending).



CANADA

DATA RECORD
SOUTH-EAST OF GRAND BANKS

No. 10
1964 Data Record Series

Canadian Oceanographic Data Centre

Programmed by the
Canadian Committee on Oceanography

1964

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Data Record

SOUTH-EAST OF GRAND BANKS

(C.O.D.C. Reference 10-63-001)

No. 10

1964 Data Record Series

Programmed by the Canadian Committee on Oceanography

DEPARTMENT OF MINES AND TECHNICAL SURVEYS

SOUTH-EAST OF GRAND BANKS

Ship:	C. S. S. "Baffin"
Local Cruise designation:	Baffin - 4
Cruise period:	April 10 - May 11, 1963
Observers:	Dr. C. R. Mann
	Mr. J. R. Foote
	Mr. P. H. McGrath
	Mr. R. Reiniger
	Mr. A. B. Grant

MARINE SCIENCES BRANCH

Bedford Institute of Oceanography, Dartmouth, N.S.

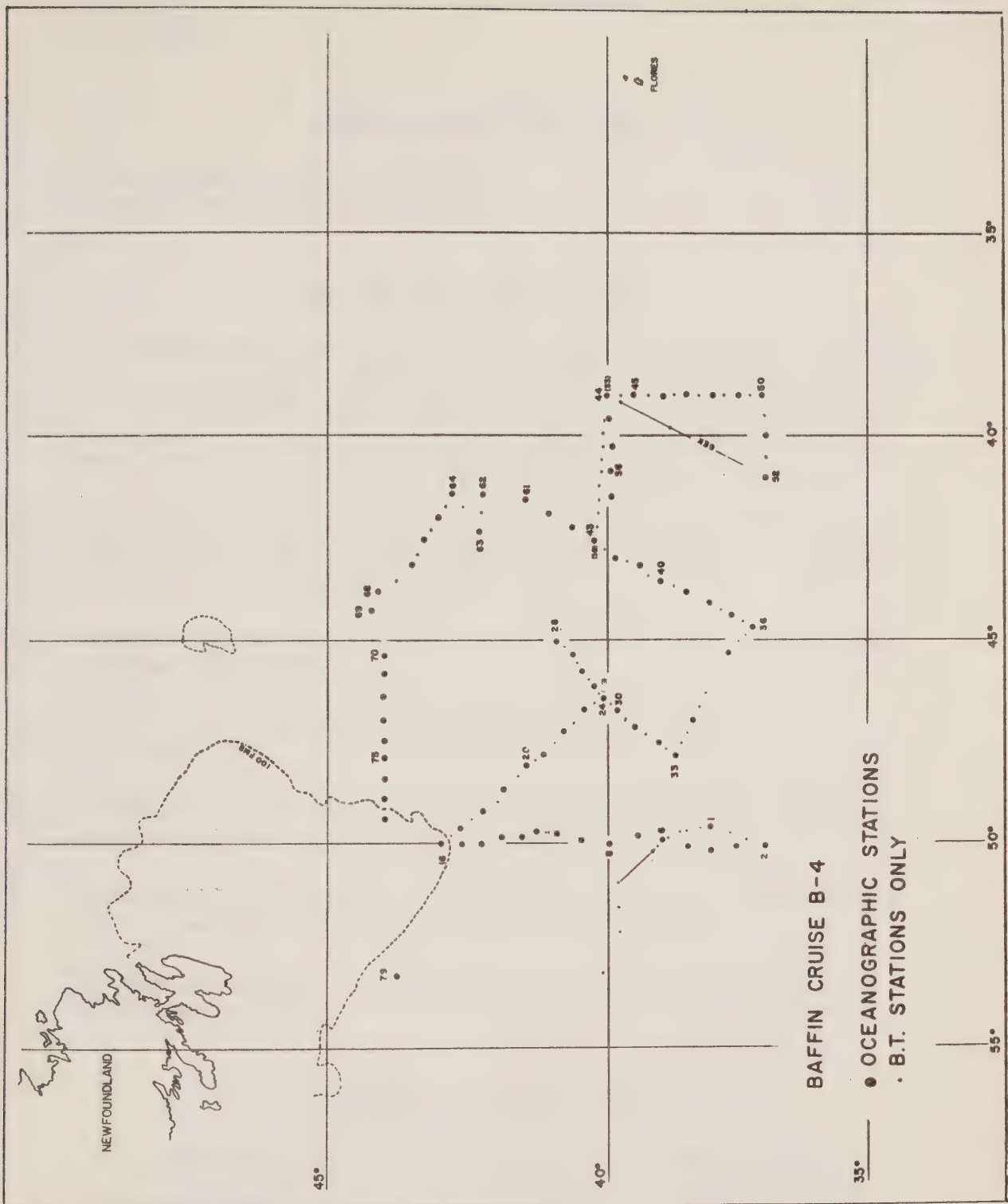
SECTION I

Description of data collection procedures



"BAFFIN"

Canadian Hydrographic Service



BAFFIN CRUISE B-4

- OCEANOGRAPHIC STATIONS
- B.T. STATIONS ONLY

INTRODUCTION

The object of this cruise was to collect oceanographic data for studies of ocean circulation in the area from the Grand Banks to the Azores (see track chart).

EXTRACT OF CRUISE LOG

Depart Halifax, N. S. 10 April 1963

Return Halifax, N. S. 11 May 1963.

OBSERVATION PROCEDURES

1. 79 Oceanographic stations were occupied employing Knudsen water bottles and Richter and Wiese reversing thermometers. Observations were made at or near standard depths to depths of 3500m or the bottom (5000m) in three casts, 10-800m, 1000-3000m, 3500m-bottom, made in this order. Extra bottles at non-standard depth were added on the deep casts.
2. Surface water samples for temperature and salinity were obtained in a metal bucket. The temperature was measured with a mercury-in-glass thermometer graduated in 0.1°C intervals.
3. Dissolved oxygen was determined at each station using a modified Winkler technique (FRB Bulletin 125).
4. Salinities were determined on board ship using an Auto-Lab inductive salinometer.
5. A thermistor device was towed just below the surface between stations and gave a continuous record of the near surface temperature.
6. Geomagnetic Electrokinetograph (GEK) observations were made while en route between stations as indicated on the track chart.
7. Weather observations were made at each station by ships' officers and scientific personnel.

BATHYTHERMOGRAPH DATA

B. T. Observations were made at each station to a depth of 275m. before the first serial bottle cast. B. T. stations were run at other locations according to the requirements of the survey.

Bathythermograph records were processed by the bathythermograph center of the Bedford Institute of Oceanography.

PERSONNELAt Sea:

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Data Analyses:

Compilation of Data:	T. R. Foote, A. B. Grant
Salinity Determinations:	R. Reiniger
B.T. Processing:	T. A. Grant, D. M. MacDonald.

SECTION II

Description of the machine-generated data record

INTRODUCTION

This section applies to the machine processing phase of the data reduction and computation cycle.

The oceanographic data previously recorded on CODC data summary forms, a sample of which is shown on the next page, are transferred to punch cards for subsequent electronic data processing on an IBM 1620 computer, using CODC's OCEANS II program. In addition to computing routine derived quantities, the program carries out unit and format conversions, range checks, plausibility tests, internal editing, and if required, interpolation at standard oceanographic depths. If interpolations are carried out, additional derived quantities are computed.

After the data have been processed, the data record is prepared using an IBM 1401 computer configuration with the OCEAN REPORT III program, which provides for pre-edited high speed print-out on continuous direct-image masters. These masters subsequently yield the required volume of copies for distribution.

Provision has been made to enter an **"estimate of precision"** for each observed variable selected for interpolation at the standard oceanographic depth. The precision depends on the instrument or technique used to determine the variable.

A standard precision stated as a **standard deviation** (σ) can be determined for each instrument or technique under routine field conditions by making duplicate determinations of the variables for a homogeneous sample of sea water. These standard deviations are given for each cruise under **"GENERAL INFORMATION"** of section II of the data record.

The **measurement error estimate** of a specific observation in this data record, is stated as a multiple of the standard deviation derived as above, and entered in a column immediately to the right of the reported variable. In order to distinguish it from an additional decimal digit, the measurement error estimate is recorded alphabetically, (i.e., $1\sigma = A$, $2\sigma = B$, etc.; in this data record "A" is suppressed).

An option is provided with respect to the measurement of the salinity variable. If observed to three decimal digits, the last digit takes the place of the measurement error estimate.

In the past, a number of methods for both manual and machine interpolation have been developed. Studies and comparisons of the several methods have shown that no single method is universally acceptable. The manual methods are the most elaborate and flexible, but often require subjective decisions. In machine interpolation, all the present methods fail to yield acceptable results under some circumstances. Hence, it is considered necessary to qualify interpolated values by stating an **"interpolation error estimate"** derived from the particular interpolation formula used. There are two purposes in stating the error estimates; **first**, to give an indication of the quality of interpolated data; **second**, to allow the oceanographer to redesign his observational procedures in order to reduce interpolation errors in future observations.

The interpolation scheme chosen for the OCEANS II program consists of a combination of two 3-point interpolations using the Lagrangian interpolation polynomial, as recommended by Rattray (1962). A parabola is fitted through three values of a given variable (T, S, O_2) considered as a function of depth. The two interpolation parabolas require a total of four points (observed depths). The middle points are common to both parabolas. The average of the two values obtained from the parabolas at standard depth is taken as the interpolated value, and a function of their difference as an estimate of the interpolation error.

This function combined with the **"measurement error estimate"** comprises the **"combined measurement and interpolation error estimate"**. It is expressed as a multiple of the standard deviation of measurement (σ) under normal routine field conditions by:

CANADIAN OCEANOGRAPHIC DATA CENTRE

1 IDENT. CODE		2 LATITUDE (N=+)		3 LONGITUDE (W=+)		4 DATE		5 TIME		6 DEPTH		7 NO. DEPTHS OBS'D.		8 VESSEL		9 CHECKED BY														
COUNTRY	INST.	DEG.	MIN.	DEG.	MIN.	YEAR	MONTH	DAY	HOURS G.M.T.	MIN.	TO BOTTOM	1	2	ENTERED BY	CHECKED BY															
1	8																													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16															
10	WATER	11	WAVES I	12	WAVES II	13	WIND	14	BAROMETER	15	AIR TEMP.	16	WET BULB	17	W.W. CODE	18	CLOUD	19	HOURS AFTER H.W.	20	UNASSIGNED	21	CRUISE REFERENCE NUMBER	22	CONSEC. NUMBER	23	NO. DEPTHS OBS'D.	24	1	
COLOUR	TRANS.	DW	DW	PW	HW	DW	PW	HW	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17														

$$\frac{\sigma_i}{\sigma} = \left\{ \frac{(\Delta V_i)^2}{\sigma^2} + \sum_{n=j-2}^{j+1} (\gamma_n)^2 \left(\frac{\sigma_n}{\sigma} \right)^2 \right\}^{1/2}, \text{ where}$$

- σ_i = Standard deviation of the combined error estimates at standard oceanographic depth,
 ΔV_i = the interpolation error estimate of variable "V" at standard oceanographic depth = $1/3 (V_{i_1} - V_{i_2})$
 γ = Interpolation polynomial coefficient.
 Z_j = Observed depth.
 Z_i = Standard oceanographic depth, such that: $Z_{j-2} < Z_{j-1} < Z_i < Z_j < Z_{j+1}$

The integral part of the fraction $\frac{\sigma_i}{\sigma}$, if ≥ 2 , is reported in this Data Record following the interpolated variable. It represents the **combined measurement and interpolation error estimate**. In order to distinguish it from an additional decimal digit, it is recorded alphabetically (e.g.: 2 as "B", 3 as "C", etc.).

With respect to the interpolated value of the salinity variable if reported to three decimal digits, the **interpolation error estimate** is given only when $\frac{\sigma_i}{\sigma} \geq 2$ (the salinity is then recorded to two decimal places). If less than 2, the mean obtained from the two interpolation parabolas is reported to three decimal places.

EXPLANATION OF DATA RECORD HEADINGS

MASTER HEADINGS

(1) C-REF-NO	(6) YR	(10) DEPTH	(15) WAVES 1	(20) AIR T	(25) VIS
(2) CONS. NO	(7) MONTH	(11) MXSAMPD	(16) WAVES 2	(21) WET B	(26) STN
(3) LAT	(8) DAY	(12) NO. DPTH	(17) WND-DIR	(22) WW-CODE	
(4) LON	(9) HR	(13) W-COLOR	(18) WND-FCE	(23) CLD-TPE	
(5) MARSD SQ		(14) W-TRNSP	(19) BARO	(24) CLD-AMT	(27) HW

(1) CRUISE REFERENCE NUMBER:

Assigned by the Institute. Commences with 001 at the beginning of each year (effective Jan. 1, 1963). Prior to that date the C.R.N. was a number designated by C.O.D.C.

(2) CONSECUTIVE NUMBER:

Indicates the chronological order in which the stations were occupied.

(3) LATITUDE:

Indicate the position of the platform at the time of observation

(4) LONGITUDE:

(5) MARSDEN SQUARE: Designates the geographic area code (see Marsden square chart) in which the observation is located.

(6) YEAR:

(7) MONTH:

(8) DAY:

(9) HOUR:

The time (Greenwich Mean Time) at which the Master-card data were recorded.

It is reported to tenths of hours (Table 1).

If an "X" precedes the value for HOUR, (prior to Jan. 1, 1963) it indicates that the reported time is doubtful.

(10) DEPTH:

The sounding reported in metres. If corrected, this is stated in the "GENERAL INFORMATION" chapter of section II. Charted depths are denoted by the sounding value, preceded by the letter "C".

(11) MAXIMUM

SAMPLING DEPTH: A code to indicate the deepest sampling depth (used for high speed sorting).

00 m - 50 m = 00

51 m - 150 m = 01

151 m - 250 m = 02

etc.

- (12) NUMBER OF DEPTHS: The number of levels observed (this is entered to initiate a computer safety check, guarding against the loss of punch cards).
- (13) WATER COLOUR: A code based on the percentage of yellow (see table 2 and NOTE under FIELD "14" below).
- (14) WATER TRANSPARENCY: The depth in metres at which a Secchi disc (white disc, 30 cm. in diameter) just disappears from view, or the optical density expressed in percentage;
- NOTE: The "GENERAL INFORMATION" chapter in section II of the data record will state which method was used.
- (15) WAVES 1
($d_w d_w P_w H_w$ -code): The direction, period and height of the wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (16) WAVES 2
($d_w d_w P_w H_w$ -code): The direction, period and height of the predominant other-than wind-propagated wave system. (See Tables 3, 4 and 5). Ref: World Meteorological Organization Code 3155.
- (17) WIND DIRECTION: The true direction to the nearest 10 degrees from which the wind is blowing. Wind direction 990 means:—wind variable or direction unknown.
- (18) WIND FORCE
(WND-FCE): Beaufort Notation (See Table 6).
- WIND SPEED
(WND-SPD): Anemometer reading reported in metres per second. Instrument height reported in "GENERAL INFORMATION" chapter of section II.
- (19) BAROMETER: The barometric pressure reported in millibars: the "GENERAL INFORMATION" chapter in Section II of the data record will state the type of instrument used.
- (20) AIR TEMPERATURE: In degrees Celsius.
- (21) WET BULB: In degrees Celsius.
- (22) ww CODE: Present Weather Code (See Table 7). Ref: WMO Code 4677
- (23) CLOUD TYPE: The type of predominating clouds (See Table 8). Ref: WMO Code 0500.
- (24) CLOUD AMOUNT: The sky coverage in eighths (See Table 9) Ref: WMO Code 2700
- (25) VISIBILITY: Visibility at the surface (See Table 10). Ref: WMO Code 4300.
- (26) STATION: A station reference number, assigned by the institute prior to, or during the survey.
- (27) HOURS AFTER HIGH WATER: Indicates the state of the tide for nearshore observations.

OBSERVED DATA HEADINGS

(1) GMT	(2) DEPTH	(3) TEMP	(4) SAL	(5) OXYGEN	(6) SGMT
(7) SOUND	(8) PO_4	(9) -P-	(10) NO_2	(11) NO_3	(12) SiO_3
				(13) pH.	

NOTE: Headings (1) to (7) will always be present. Headings (8) to (13) appear only when one or more additional chemical entries were made.

- (1) G.M.T.: The Greenwich Mean Time of (in-situ) thermometer inversion and sea water sample collection.
- When a multiple cast was initiated prior to and continued after midnight, the times indicated are uninterrupted by the change of day and appear beyond 24.0 hours. This will be accompanied by a statement: "MULTIPLE CAST CONTINUED NEXT DAY", which is printed following the last level of observed values.
- (2) DEPTH: The depth in metres at the moment the oceanographic bottle reversed.
- (3) TEMPERATURE: Temperatures from deepsea reversing thermometers, read to 0.01° C. Surface temperature measurement procedures are described in the chapter "OBSERVATION PROCEDURES" of section I, and/or the "GENERAL INFORMATION" chapter of this section. An alphabetical character following the Temperature value represents the measurement error estimate referred to in the INTRODUCTION to this section.
- (4) SALINITY: Salinity as defined by: $S = 0.03 + 1.805 C1\%$, reported in:
- 1/100 parts per 1000, or
 - 1/1000 parts per 1000.
- In case a: an alphabetical character following the value is the measurement error estimate as referred to under (3)
- In case b: no error estimate indication is provided for, but an additional decimal digit takes its place.
- (5) OXYGEN: The concentration of dissolved oxygen expressed in millilitres per litre to 2 decimal places. An alphabetical character following the value is the measurement error estimate as referred to under (3).
- (6) SIGMA-T: The specific gravity anomaly as defined by: $(\text{Specific gravity} - 1) \times 10^3$ (e.g., σ_t reported as 2456, reads 24.56, and corresponds to a specific gravity of 1.02456).
- (7) SOUND: The sound velocity is reported in m/sec. to 1 decimal place (e.g., 1437.9 m/sec.). The computation is carried out using Wilson's formula (1960), expressed in terms of temperature, salinity and total pressure.

- (8) PO_4 Phosphate – Phosphorus reported to hundredths of microgram-atoms per litre.
- (9) -P- Total Phosphorus reported to hundredths of microgram-atoms per litre.
- (10) NO_2 Nitrite-Nitrogen reported to hundredths of microgram-atoms per litre – No dissolved nitrogen included –
- (11) NO_3 Nitrate-Nitrogen reported to tenths of microgram-atoms per litre.
- (12) SiO_3 Silicate-Silicon reported in whole microgram-atoms per litre.
- (13) pH The pH value.

NOTE: "TRC" (trace) is reported when a chemical entry has a value smaller the standard deviation of measurement for that particular variable.

INTERPOLATED DATA HEADINGS

(1) DEPTH	(2) TEMP	(3) SAL	(4) OXYGEN	(5) SGMT	(6) SOUND
(7) DELTA-D	(8) POT-EN	(9) SVA.			

- (1) DEPTH: Standard Oceanographic Depth in whole metres, as well as additional depths: 125, 175, 225, 3500, 4500, 5500, 6500, 7500, 8500, 9500.
- (2) TEMPERATURE: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "INTRODUCTION" to section II of the data record).
- (3) SALINITY: **A.** The reported salinity values are observed to three decimal places.
 (i) the interpolation error estimate is less than twice the standard deviation of measurement
 –the interpolated value is reported to three decimal places (e.g., 30.139).
 (ii) the interpolation error estimate is equal to or greater than twice the standard deviation of measurement.
 –the interpolated value is reported to two decimal places, and followed by the **interpolation error estimate** (e.g., 29.23C).
B. The reported salinity values are observed to two decimal places and followed by the measurement error estimate.
 –the interpolated value is reported to two decimal places, and followed by the **combined measurement and interpolation error estimate** (e.g., 30.59B).
- (4) OXYGEN: Interpolated value at standard depth, followed by the **combined measurement and interpolation error estimate** (see "Introduction" to section II of the data record).

(5) SIGMA-T: Computed from temperature and salinity values at standard oceanographic depth.

(6) SOUND
VELOCITY: Computed from temperature and salinity values at standard oceanographic depth, using Wilson's formula (1960).

(7) DELTA-D: The geo-potential anomaly as defined by:

$$\Delta D = \int_0^P \delta dp$$

ΔD is expressed in dynamic metres (10^5 ergs/gram) and recorded to three decimal places (e.g., 2,345 dyn. metres).

(8) POTENTIAL
ENERGY
ANOMALY:

The Potential energy anomaly χ as defined by:

$$\chi = 1/g \int_0^P p \delta dp = \int_0^Z \rho p \delta dz$$

χ is expressed in units of 10^8 ergs/cm² and recorded to two decimal places (e.g., 116.44).

(9) SPECIFIC
VOLUME
ANOMALY:

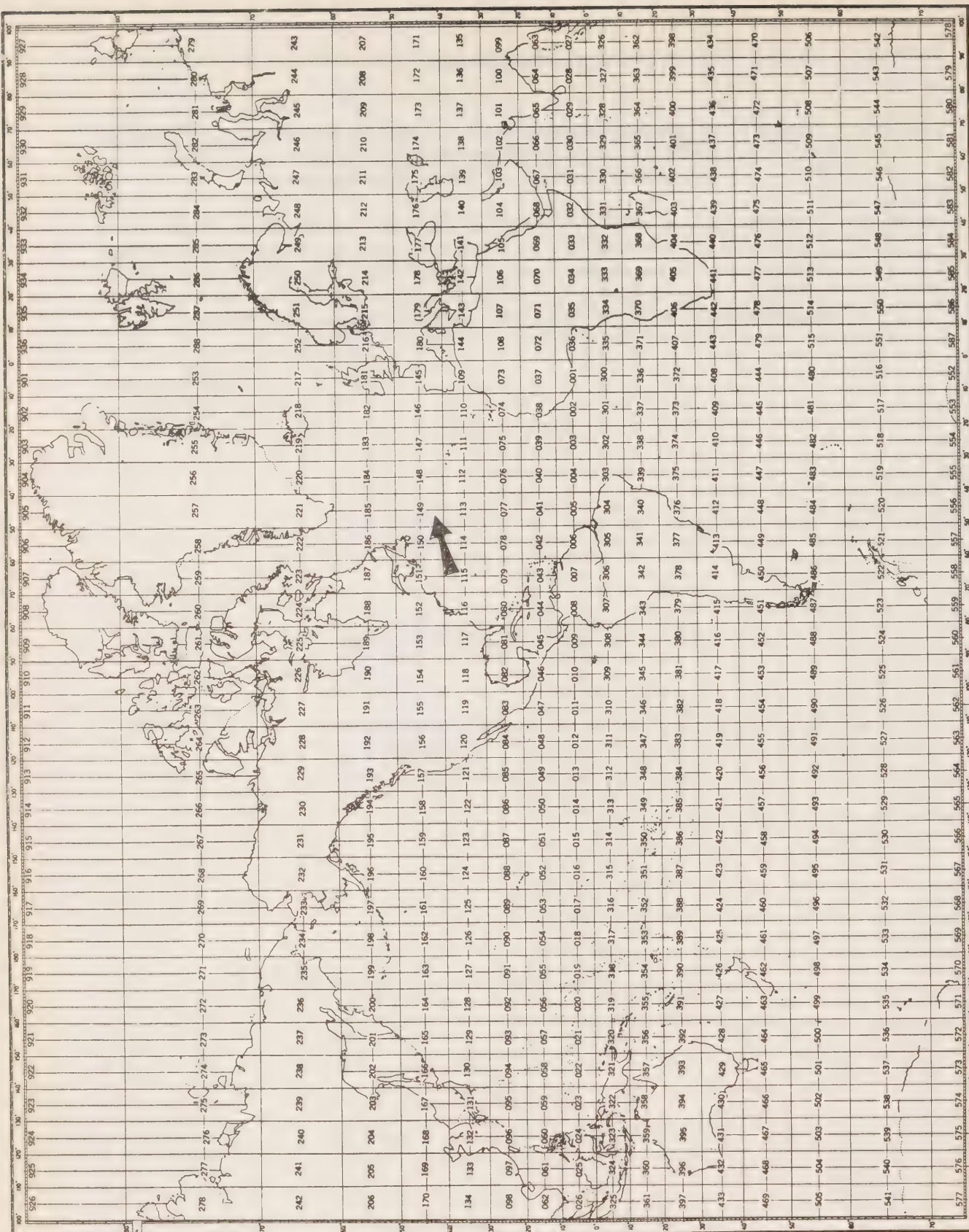
The specific volume anomaly as defined by:

$$\delta = \alpha - \alpha_{35.0.P}$$

δ is expressed in ml/gr, and conventionally reported as $10^5 \delta$, to one decimal place (i.e., δ reported as 1234, reads 123.4, and corresponds to a specific volume anomaly of 0.001234 ml/gr.).

SPECIAL CHARACTERS

- ‡ (Record mark): is used to indicate inconsistencies which are printed in an area below the "Observed Data". A corresponding record mark at the extreme left hand side indicates the level at which the inconsistency occurs
- * (Asterisk): this character may occur in the **interpolated** portion of the data record. It is printed at the extreme left hand side of the page, when three or more standard depth levels fall within any one **observed depth interval**. The **third**, and all consequent levels within that interval are preceded by the asterisk to indicate that more than **two** machine interpolations were carried out, utilizing the same set of interpolation parabolas.



MARSDEN SQUARE CHART

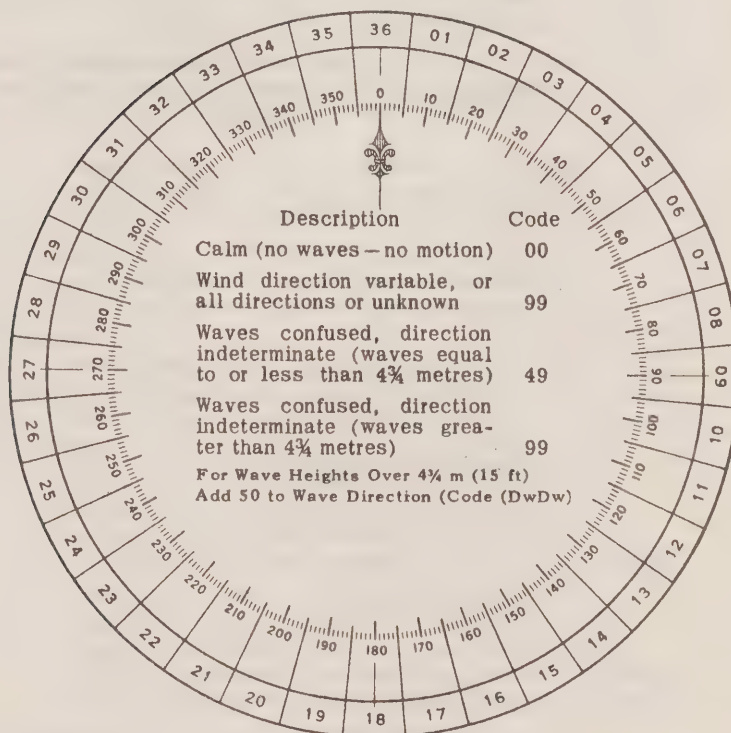
Table 1
CONVERSION
MINUTES TO $\frac{1}{10}$ HRS.

Minutes	Tenths Hrs.
00-03	0
04-08	1
09-15	2
16-20	3
21-27	4
28-32	5
33-39	6
40-44	7
45-51	8
52-56	9
57-59	0 (next HR.)

Table 2
WATER COLOR CODE
Based on Percentage Yellow

Code:	Description
00	Deep Blue
10	Blue
20	Greenish Blue
30	Bluish Green
40	Green
50	Light Green
60	Yellowish Green
70	Yellow Green
80	Green Yellow
90	Greenish Yellow
99	Yellow

Table 3. DIRECTION CODE (dd)



NOTE:

Always use the true direction from which the wind is blowing, or the direction from which Waves I (sea), or Waves II (swell) come.

Table 4. PERIOD OF THE WAVES (Pw)
(Measure to the Nearest Second)

Code:	Period in Seconds:	Code:	Period in Seconds:
2	5 sec. or less	8	16 or 17 sec.
3	6 or 7 sec.	9	18 or 19 sec.
4	8 or 9 sec.	0	20 or 21 sec.
5	10 or 11 sec.	1	Over 21 sec.
6	12 or 13 sec.	X	Calm, or period not determined
7	14 or 15 sec.		

Table 5. HEIGHT OF THE WAVES (Hw)

- The average value of the wave height (vertical distance between trough and crest) is reported, as obtained from the larger well formed waves of the wave system being observed.
- Each code figure provides for reporting a range of heights. For example: 1 = $\frac{1}{4}$ m (1 ft) to $\frac{3}{4}$ m (2½ ft); 5 = $2\frac{1}{4}$ m (7 ft) to $2\frac{3}{4}$ m (9 ft); 9 = $4\frac{1}{4}$ m (13½ ft) to $4\frac{3}{4}$ m (15 ft), etc.
- If a wave height comes exactly midway between the heights corresponding to two code figures, the lower code figure is reported; e.g. a height of $2\frac{3}{4}$ m is reported by code figure 5.

Code			Code
0	Less than ¼ m (1 ft)	Add 50 to Dw Dw	0 5 m (16 ft)
1	½ m (1½ ft)		1 5½ m (17½ ft)
2	1 m (3 ft)		2 6 m (19 ft)
3	1½ m (5 ft)		3 6½ m (21 ft)
4	2 m (6½ ft)		4 7 m (22½ ft)
5	2½ m (8 ft)		5 7½ m (24 ft)
6	3 m (9½ ft)		6 8 m (25½ ft)
7	3½ m (11 ft)		7 8½ m (27 ft)
8	4 m (13 ft)		8 9 m (29 ft)
9	4½ m (14 ft)		9 9½ m (30½ ft) or more
x	Height not determined		

Table 6. WIND FORCE CODE

The Beaufort force of the wind is estimated from the appearance of the sea surface, according to the table below. This table is only intended as a guide to show roughly what may be expected on the open sea, remote from land. Factors which must be taken into account are the "lag" effect between the wind increasing and the sea getting up; and the influence of "fetch", depth, swell, heavy rain and tide effect on the appearance of the sea. Estimation of the wind force by this method becomes unreliable in shallow water or when close inshore, owing to the tidal effect and the shelter provided by the land.

Code	Appearance of sea if fetch and duration of the blow have been sufficient to develop the sea fully	Description
00	Sea like a mirror	Calm
01	Ripples with the appearance of scales are formed, but without foam crests.	Light Air
02	Small wavelets; crests have a glassy appearance and do not break.	Light Breeze
03	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses.	Gentle Breeze
04	Small waves, becoming longer; fairly frequent white horses.	Moderate breeze
05	Moderate waves; many white horses are formed (chance of some spray)	Fresh Breeze
06	Large waves; white foam crests everywhere (probably some spray)	Strong Breeze
07	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.	Near Gale
08	Moderately high waves; edges of crests begin to break into the spindrift; foam is blown in well-marked streaks along the direction of the wind.	Gale
09	High waves; dense streaks of foam along wind; crests begin to topple, tumble and roll over; spray may affect visibility.	Strong Gale
10	Very high waves with long overhanging crests; foam in great patches blown in dense white streaks along wind; sea surface takes a white appearance; tumbling becomes heavy and shock-like; visibility affected.	Storm
11	Exceptionally high waves (medium sized ships may be lost to view behind waves); sea covered with long white patches of foam lying along the wind; everywhere edges of crests are blown into froth; visibility affected.	Violent Storm
12	Air is filled with foam and spray; sea completely white with driving spray; visibility seriously affected.	Hurricane

Table 7. PRESENT WEATHER

W.W. CODE

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

Code figure ww			
No meteors except photometeors	00	Cloud development not observed or not observable	characteristic change of the state of sky during the past hour
	01	Clouds generally dissolving or becoming less developed	
	02	State of sky on the whole unchanged	
Haze, dust, sand or smoke	03	Clouds generally forming or developing	
	04	Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes	
	05	Haze	
	06	Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation	
	07	Dust or sand raised by wind at or near the station at the time of observation, but no well developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen	
	08	Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no dustorm or sandstorm	
	09	Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour	
	10	Mist	
	11	Patches of	shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 metres on land or 10 metres at sea
	12	More of less continuous	
	13	Lightning visible, no thunder heard	
	14	Precipitation within sight, not reaching the ground or the surface of the sea	
	15	Precipitation within sight, reaching the ground or the surface of the sea, but distant (i.e. estimated to be more than 5 km) from the station	
	16	Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station	
	17	Thunderstorm, but no precepitation at the time of observation	
	18	Squalls	at or within sight of the station during the preceding hour or at the time of observation
	19	Funnel clouds	
ww = 20 - 29			
	20	Precipitation, fog, ice fog or thunderstorm at the station during the preceding hour but not at the time of observation	
	21	Drizzle (not freezing) or snow grains	not falling as shower(s)
	22	Rain (not freezing)	
	23	Snow	
	24	Rain and snow or ice pellets, type (a)	
	25	Freezing drizzle or freezing rain	
	26	Shower (s) of rain	
	27	Shower (s) of snow, or of rain and snow	
	28	Shower (s) of hail, or of rain and hail	
	29	Fog or ice fog	
ww = 30 - 39			
	30	Thunderstorm (with or without precipitation)	
	31	Duststorm, sandstorm, drifting or blowing snow	
	32	Slight or moderate duststorm or sandstorm	- has decreased during the preceding hour - no appreciable change during the preceding hour - has begun or has increased during the preceding hour
	33	Severe duststorm or sandstorm	
	34	Slight or moderate blowing snow	- has decreased during the preceding hour - no appreciable change during the preceding hour - has begun or has increased during the preceding hour
	35	Heavy drifting snow	
	36	Slight or moderate blowing snow	generally low (below eye level)
	37	Heavy blowing snow	
	38	Slight or moderate blowing snow	generally high (above eye level)
	39	Heavy blowing snow	
ww = 40 - 49			
	40	Fog or ice fog at the time of observation	
	41	Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer	
	42	Fog or ice fog in patches	
	43	Fog or ice fog, sky visible	has become thinner during the preceding hour
	44	Fog or ice fog, sky invisible	
	45	Fog or ice fog, sky visible	no appreciable change during the preceding hour
	46	Fog or ice fog, sky invisible	
	47	Fog or ice fog, sky visible	has begun or has become thicker during the preceding hour
	48	Fog or ice fog, sky invisible	
	49	Fog, depositing rime, sky visible	
		Fog, depositing rime, sky invisible	

NO PRECIPITATION ON STATION AT TIME OF OBSERVATION

PRECIPITATION ON STATION AT TIME OF OBSERVATION

ww = 50 - 59 Drizzle

- | | | |
|----|--|--|
| 50 | Drizzle, not freezing, intermittent | } slight at time of observation |
| 51 | Drizzle, not freezing, continuous | |
| 52 | Drizzle, not freezing, intermittent | } moderate at time of observation |
| 53 | Drizzle, not freezing, continuous | |
| 54 | Drizzle, not freezing, intermittent | } heavy (dense) at time of observation |
| 55 | Drizzle, not freezing, continuous | |
| 56 | Drizzle, freezing, slight | |
| 57 | Drizzle, freezing, moderate or heavy (dense) | |
| 58 | Drizzle and rain, slight | |
| 59 | Drizzle and rain, moderate or heavy | |

ww = 60 - 69 Rain

- | | | |
|----|---|-----------------------------------|
| 60 | Rain, not freezing, intermittent | } slight at time of observation |
| 61 | Rain, not freezing, continuous | |
| 62 | Rain, not freezing, intermittent | } moderate at time of observation |
| 63 | Rain, not freezing, continuous | |
| 64 | Rain, not freezing, intermittent | } heavy at time of observation |
| 65 | Rain, not freezing, continuous | |
| 66 | Rain, freezing, slight | |
| 67 | Rain, freezing, moderate or heavy | |
| 68 | Rain or drizzle and snow, slight | |
| 69 | Rain or drizzle and snow, moderate or heavy | |

70 - 79 Solid precipitation not in showers

- | | | |
|----|---|-----------------------------------|
| ww | | |
| 70 | Intermittent fall of snow flakes | } slight at time of observation |
| 71 | Continuous fall of snow flakes | |
| 72 | Intermittent fall of snow flakes | } moderate at time of observation |
| 73 | Continuous fall of snow flakes | |
| 74 | Intermittent fall of snow flakes | } heavy at time of observation |
| 75 | Continuous fall of snow flakes | |
| 76 | Ice prisms (with or without fog) | |
| 77 | Snow grains (with or without fog) | |
| 78 | Isolated starlike snow crystals (with or without fog) | |
| 79 | Ice pellets, type (a) | |

ww = 80 - 99 Showery precipitation, or precipitation with current or recent thunderstorm

- | | | |
|----|--|---|
| 80 | Rain shower(s), slight | |
| 81 | Rain shower(s), moderate or heavy | |
| 82 | Rain shower(s), violent | |
| 83 | Shower(s) of rain and snow mixed, slight | |
| 84 | Shower(s) of rain and snow mixed, moderate or heavy | |
| 85 | Snow shower(s), slight | |
| 86 | Snow shower(s), moderate or heavy | |
| 87 | Shower(s) of snow pellets or ice pellets, type (b), with or without rain | } - slight |
| 88 | or rain and snow mixed | |
| 89 | Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder | } - moderate or heavy |
| 90 | | |
| 91 | Slight rain at time of observation | } thunderstorm during the preceding hour but not at time of observation |
| 92 | Moderate or heavy rain at time of observation | |
| 93 | Slight snow, or rain and snow mixed or hail at time of observation | |
| 94 | Moderate or heavy snow, or rain and snow mixed or hail at time of observation | } thunderstorm at time of observation |
| 95 | Thunderstorm, slight or moderate, without hail, but with rain and/or snow at time of observation | |
| 96 | Thunderstorm, slight or moderate, with hail at time of observation | |
| 97 | Thunderstorm, heavy, without hail, but with rain and/or snow at time of observation | |
| 98 | Thunderstorm, combined with duststorm or sandstorm at time of observation | |
| 99 | Thunderstorm, heavy, with hail at time of observation | |

PRECIPITATION ON STATION AT TIME OF OBSERVATION

Table 8. CLOUD TYPE CODE

Code	Cloud Type	Code	Cloud Type
0	Cirrus Ci	5	Nimbostratus Ns
1	Cirrocumulus Cc	6	Stratocumulus Sc
2	Cirrostratus Cs	7	Stratus St
3	Alto cumulus Ac	8	Cumulus Cu
4	Altostratus As	9	Cumulonimbus Cb
X	Cloud not visible owing to darkness, fog, duststorm, sandstorm, or other analogous phenomena		

Table 9. CLOUD AMOUNT CODE

Code	Cloud Cover	Code	Cloud Cover
0	0	6	6 oktas
1	1 okta or less, but not zero	7	7 oktas or more, but not 8 oktas
2	2 oktas	8	8 oktas
3	3 oktas	9	Sky obscured, or cloud amount cannot be estimated
4	4 oktas		
5	5 oktas		

Note: 1 okta = $\frac{1}{8}$ of the sky covered

Table 10. VISIBILITY

Code	Estimate of hor. Visibility
90	Less than 50 metres (less than 55 yards)
91	50-200 metres (approx. 55-220 yards)
92	200-500 metres (approx. 220-550 yards)
93	500-1,000 metres (approx. 550 yards- $\frac{1}{4}$ n.m.)
94	1-2 km (approx. $\frac{1}{4}$ -1 n.m.)
95	2-4 km (approx. 1-2 n.m.)
96	4-10 km (approx. 2-6 n.m.)
97	10-20 km (approx. 6-12 n.m.)
98	20-50 km (approx. 12-30 n.m.)
99	50 km or more (30 n.m. or more)

Note: n.m. = nautical mile

GENERAL INFORMATION

<u>Institute:</u>	Bedford Institute of Oceanography
<u>Observation platform:</u>	C. S. S. "Baffin"
<u>Vessel's cruising speed:</u>	12 knots
<u>Total number of stations occupied:</u>	78
<u>Anemometer height above sea level:</u>	22 metres
<u>Barometer readings</u>	were obtained using an Aneroid Barometer and were corrected prior to recording
<u>Air temperature</u>	was observed from a Sling Psychrometer
<u>Wet bulb temperature</u>	was observed from a Sling Psychrometer
<u>Surface Sea water temperature</u>	was obtained from a bucket sample using a mercury-in-glass thermometer.

The following Standard Deviations were used to express both measurement and interpolation error estimates:

Temperature:	0.02
Salinity:	0.003
Oxygen:	not available.

SECTION III

Serial oceanographic data

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2556	AIR T 14.9	VIS 98
CONS. NO 001	MONTH 4	MXSAMPD 09	WAVES 2 27X5	WET B 12.3	STN
LAT 38-030N	DAY 13	NO.DPTH 13	WND-DIR 280	WW-CODE 03	
LON 49-390W	HR 22.8	W-COLOR	WND-SPD 15	CLD-TPE 6	
MARSD SQ 113		W-TRNSP	BARO 1007.5	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
235	0000	172 B	36446		2659	15159
235	0009	1720				
235	0026	1721	36408		2656	15163
235	0065	1721	36406		2656	15169
235	0130	1723	36409		2656	15181
235	0173	1724	36406		2655	15188
235	0216	1719	36403		2656	15194
235	0260	1723	36387		2654	15202
235	0347		36323			
228	0452	1552	36055		2669	15177
228	0547		35746			
228	0735	0967	35240		2721	15016
228	0939	0641	35049		2756	14923

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1720 B	36446		2659	15159	0000	00000	1453
0010	1720	36433		2658	15160	0015	00001	1466
0020	1721	3642 B		2657	15162	0030	00003	1479
0030	1721	36406		2656	15164	0045	00007	1495
0050	1721	36403		2656	15167	0075	00019	1504
0075	1721	36406		2656	15171	0113	00044	1511
0100	1722	36408		2656	15175	0151	00078	1520
*0125	1723	36409		2656	15180	0189	00122	1530
0150	1724	36408		2655	15184	0228	00177	1541
0175	1724	36406		2655	15188	0267	00242	1551
0200	1721	36405		2656	15191	0306	00317	1553
0225	1720	36401		2656	15195	0345	00403	1563
0250	1722	36392		2655	15200	0385	00500	1583
0300	1708 B	3637 B		2656	15204	0465	00725	1582
0400	1622 B	3621 B		2664	15192	0622	01290	1539
0500	1461 G	3590 B		2677	15155	0772	01981	1436
0600	1261 I	3558 B		2694	15101	0910	02755	1286
0700	1046 E	3532 B		2714	15040	1030	03554	1096
0800	0917 I	3517 E		2724	15007	1136	04370	1003

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2444	AIR T 17.0	VIS 97
CONS. NO 002	MONTH 4	MXSAMPD 44	WAVES 2 25X4	WET B 13.8	STN
LAT 37-024N	DAY 14	NO.DPTH 24	WND-DIR 220	WW-CODE 03	
LON 50-030W	HR 06.7	W-COLOR	WND-SPD 12	CLD-TPE 9	
MARSD SQ 114		W-TRNSP	BARO 1009.3	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
067	0000	1745 C	36529		2661	15166
067	0009	1757	36494		2654	15172
067	0029	1758	36496	511	2654	15175
067	0073	1758	36496		2654	15183
067	0097	1758	36484	504	2653	15186
067	0146	1761	36490	496	2653	15195
067	0195	1761	36488	497	2652	15203
067	0244	1762	36489	487	2652	15212
067	0293	1759	36480	495	2652	15219
067	0392		36478	485		
067	0491	1663	36267	396	2659	15220
078	0560		36082	402		
078	0754	1204	35556	333	2703	15107
078	0944	0739	35089	365	2745	14963
078	1154	0551	35065	464	2769	14923
078	1445	0447 C	35026	531	2778	14928
099	1840	0395	35006	573	2782	14973
078	1929	0387	34994	557	2782	14985
099	2308	0356	35010	560	2786	15036
099	3240	0283	34953	535	2788	15165
099	3711	0256	34935	561	2789	15236
099	4000	0241	34920	558	2790	15280
099	4180	0235	34913	553	2789	15309
099	4389	0234	34916	534	2790	15346

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1745 C	36529		2660	15167	0000	00000	1451
0010	1757	36493		2654	15172	0015	00001	1509
0020	1760	3649 B		2653	15174	0030	00003	1521
0030	1758	36496		2654	15176	0045	00007	1515
0050	1758	36498		2654	15179	0076	00020	1521
0075	1758	36495		2654	15183	0114	00044	1531
0100	1758	36484		2653	15187	0153	00079	1549
0125	1760	36485		2653	15192	0192	00124	1560
0150	1761	36490		2653	15196	0232	00180	1568
0175	1761	36489		2653	15200	0271	00246	1578
0200	1761	36488		2652	15204	0311	00323	1587
0225	1762	36489		2652	15209	0351	00411	1597

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1762	36488		2652	15213	0392	00509	1606
0300	1759	36483		2653	15220	0473	00739	1619
0400	1729 B	36466		2659	15227	0635	01321	1595
0500	1652	36244		2660	15218	0797	02069	1611
0600	1509 C	35972		2672	15187	0955	02959	1517
0700	1322 B	35700		2691	15140	1100	03922	1348
0800	1084 F	3542 D		2715	15071	1224	04875	1112
1000	0668 D	3506 F		2753	14944	1409	06550	0720
1200	0527 B	35058		2771	14921	1537	07981	0544
1500	0436 C	35024		2779	14933	1693	10126	0477
2000	0381	3499 B		2782	14994	1933	14458	0469
2500	0340	3500 B		2787	15063	2165	19832	0443
3000	0300	3497 B		2788	15132	2390	26225	0439
3500	0267	34943		2789	15204	2614	33767	0438
4000	0241	34920		2790	15281	2838	42470	0436

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2344	AIR T 17.5	VIS 97
CONS. NO 003	MONTH 4	MXSAMPD 24	WAVES 2 23X6	WET B 15.0	STN
LAT 37-352N	DAY 14	NO.DPTH 18	WND-DIR 200	WW-CODE 61	
LON 50-068W	HR 15.5	W-COLOR	WND-SPD 15	CLD-TPE 6	
MARSD SQ 114		W-TRNSP	BARO 1008.7	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
155	0000	174 B	36662		2671	15167
155	0009	1741	36467		2656	15167
155	0027	1742 B	36467	517	2656	15170
155	0069	1740 B	36466		2656	15176
155	0092	1741	36465	523	2656	15180
155	0138	1742	36462	523	2655	15188
155	0184	1742	36462	488	2655	15196
155	0230	1745	36463	488	2654	15204
155	0275	1741	36460	506	2655	15210
155	0370		36221	430		
155	0464	1525	36025	418	2672	15171
163	0566		35802	402		
163	0760	0996	35260	309	2718	15031
163	0955	0687	35062	385	2751	14944
163	1149	0523	35053	486	2771	14910
163	1453	0429	34998	561	2778	14922
163	1955	0378	34974	580	2781	14985
163	2450	0352	34980	588	2784	15059

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1740 B	36662		2671	15167	0000	00000	1342
0010	1741	3646 B		2655	15167	0014	00001	1495
0020	1742	3644 G		2653	15168	0029	00003	1517
0030	1742 B	36467		2656	15171	0045	00007	1499
0050	1741 B	36467		2656	15174	0075	00019	1504
0075	1740 B	36466		2656	15177	0113	00044	1511
0100	1741	36464		2655	15182	0151	00078	1523
0125	1742	36463		2655	15186	0190	00123	1534
0150	1742	36462		2655	15190	0228	00177	1544
0175	1742	36462		2655	15194	0267	00243	1552
0200	1743	36463		2655	15199	0307	00318	1564
0225	1745	36463		2655	15203	0346	00405	1575
0250	1745	36466		2655	15207	0386	00502	1582
0300	1724 B	3641 D		2655	15209	0466	00728	1591
0400	1621 D	36157		2660	15192	0625	01301	1572
0500	1465 C	35949		2680	15157	0776	01992	1409
0600	1292 F	3570 D		2697	15113	0911	02750	1260
0700	1110 D	3542 F		2710	15064	1032	03557	1139

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0800	0925 B	3520 B		2725	15011	1140	04385	0994
1000	0639	3505 B		2756	14932	1309	05922	0682
1200	0499 B	35044		2773	14909	1431	07278	0515
1500	0421	34993		2778	14927	1582	09374	0479
2000	0358 E	3497 B		2782	14985	1820	13656	0458

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2255	AIR T 17.0	VIS 97
CONS. NO 004	MONTH 4	MXSAMPD 48	WAVES 2 22X6	WET B 15.0	STN
LAT 38-033N	DAY 14	NO.DPTH 23	WND-DIR 180	WW-CODE 02	
LON 50-097W	HR 20.7	W-COLOR	WND-SPD 10	CLD-TPE 6	
MARSD SQ 114		W-TRNSP	BARO 1004.3	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
207	0000	1755 B	36389		2648	15167
207	0010	1702	36375	519	2658	15154
207	0028	1702	36374	492	2658	15157
207	0071	1702 B	36375	509	2658	15164
207	0095	1702	36374	509	2658	15168
207	0143	1702	36368	507	2658	15176
207	0191	1702	36368	500	2658	15184
207	0238	1700	36360	486	2657	15191
207	0285	1682	36321	482	2659	15193
207	0382	1571	36092	446	2667	15172
207	0478	1466	35920	398	2677	15153
214	0563	1332	35701	372	2689	15121
214	0760	0970	35247	326	2721	15021
214	0965	0624	35020	437	2756	14920
214	1166	0494	35007	518	2771	14901
214	1456	0433	34999	576	2777	14924
214	1943	0383	34968	595	2780	14985
214	2441	0346	34963	597	2783	15054
232	2872	0312	34959	560	2786	15114
232	3810	0248	34916	560	2789	15250
232	4285	0234	34907	551	2789	15327
232	4578	0230	34903	555	2789	15377
232	4773	0230	34900	555	2789	15412

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1755 B	36389		2646	15169	0000	00000	1576
0010	1702	36375		2658	15154	0015	00001	1467
0020	1694 C	36372		2660	15154	0030	00003	1455
0030	1702	36374		2658	15158	0045	00007	1475
0050	1702	36374		2658	15161	0075	00019	1481
0075	1702 B	36375		2658	15165	0112	00043	1489
0100	1702	36373		2658	15169	0150	00077	1499
0125	1702	36370		2658	15173	0187	00121	1510
0150	1702	36368		2658	15177	0226	00175	1520
0175	1702	36368		2658	15181	0264	00239	1528
0200	1702	36368		2658	15186	0303	00313	1537
0225	1701	36364		2657	15189	0342	00398	1546
0250	1697	36354		2658	15192	0381	00493	1553

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1668	3629 B		2660	15191	0459	00714	1548
0400	1553	36061		2669	15169	0612	01263	1489
0500	1434	35866		2680	15146	0758	01936	1403
0600	1266 B	3560 B		2695	15103	0893	02698	1277
0700	1083 B	3537 B		2711	15053	1015	03505	1125
0800	0893 C	35184		2729	14998	1119	04309	0949
1000	0591 B	3501 B		2759	14913	1281	05770	0644
1200	0482	35006		2772	14902	1399	07094	0522
1500	0427	34996		2778	14929	1552	09216	0485
2000	0378	34967		2780	14993	1798	13663	0485
2500	0341	34963		2784	15063	2042	19327	0474
3000	0301	34954		2787	15132	2279	26048	0454
3500	0266	34931		2788	15204	2509	33767	0444
4000	0241	34912		2789	15281	2736	42587	0442
4500	0231	34904		2789	15365	2966	52719	0452

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2222	AIR T 17.9	VIS 98
CONS. NO 005	MONTH 4	MXSAMPD 33	WAVES 2 23X5	WET B 15.4	STN
LAT 38-300N	DAY 15	NU.DPTH 22	WND-DIR CALM	WW-CODE 01	
LON 50-037W	HR 04.8	W-COLOR	WND-SPD 00	CLD-TPE 3	
MARSD SQ 114		W-TRNSP	BARO 1006.4	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
048	0000	1715 B	36419		2660	15156
048	0010	1716	36405		2657	15159
048	0029	1717	36405	475	2657	15162
048	0071	1715	36403		2657	15169
048	0095	1716	36402	478	2657	15173
048	0144	1716	36399	476	2657	15181
048	0192	1716	36400	474	2657	15189
048	0241	1713	36387	490	2656	15196
048	0290	1695	36341	506	2657	15198
048	0388	1582	36104	461	2666	15177
048	0486	1471	35935	447	2677	15156
048	0584	1291	35644	384	2693	15110
048	0785	0858	35158	368	2733	14983
058	0929	0671	35088	449	2755	14933
058	1121	0510 B	35009	591	2769	14900
058	1313	0455	35007	590	2775	14909
058	1494	0427	34997	596	2778	14928
058	1690	0395	34975	602	2779	14947
058	1882	0386	34983	618	2781	14976
058	2360	0355	34962	607	2782	15044
058	2851	0317	34956	617	2786	15112
058	3330	0280	34940	596	2788	15180

*WAVES NOT COMPATIBLE WITH WIND

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1715 B	36419		2658	15157	0000	00000	1461
0010	1716	36405		2657	15159	0015	00001	1477
0020	1717	36403		2657	15161	0030	00003	1484
0030	1717	36405		2657	15162	0045	00007	1486
0050	1716	36404		2657	15165	0075	00019	1492
0075	1715	36403		2657	15169	0112	00043	1499
0100	1716	36402		2657	15174	0150	00077	1511
0125	1716	36400		2657	15178	0188	00122	1521
0150	1716	36399		2657	15182	0227	00176	1529
0175	1716	36400		2657	15186	0265	00240	1537
0200	1716	36399		2657	15190	0304	00315	1546
0225	1715	36394		2656	15194	0343	00400	1556
0250	1711	36382		2656	15197	0383	00496	1565

DEPTH	T E M P	S. A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1686	3632 B		2658	15196	0462	00720	1568
0400	1570	36085		2667	15175	0617	01276	1509
0500	1448	35896		2679	15151	0764	01955	1411
0600	1254 B	3559 B		2696	15099	0899	02714	1262
0700	1034 F	3533 D		2717	15036	1017	03496	1068
0800	0835	35145		2735	14976	1116	04252	0882
1000	0599	35053		2762	14916	1268	05636	0624
1200	0479 B	35004		2772	14901	1384	06937	0519
1500	0426	34996		2778	14929	1536	09050	0484
2000	0379	34980		2781	14994	1780	13448	0476
2500	0344	34960		2783	15064	2024	19110	0480
3000	0307	34948		2786	15134	2265	25969	0466

C-REF-NO 001	YR 1963	DEPTH 5200	WAVES 1 2724	AIR T 19.0	VIS 98
CONS. NO 006	MUNTH 4	MXSAMPD 27	WAVES 2 24X4	WET B 16.3	STN
LAT 39-003N	DAY 15	NO.DPTH 22	WND-DIR 250	WW-CODE 80	
LON 49-562W	HR 11.2	W-COLOR	WND-SPD 19	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1006.6	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
112	0000	1732 B	36454		2657	15162
112	0008	1745	36464		2655	15168
112	0025	1746	36465		2654	15171
112	0065	1746	36462		2654	15177
112	0085	1746	36464	518	2654	15181
112	0130	1747	36463	518	2654	15188
112	0170	1747	36466	504	2654	15195
112	0215	1747	36457	504	2654	15202
112	0256	1746	36452	507	2653	15209
112	0342	1716	36380	510	2655	15213
112	0426	1668	36284	475	2659	15211
112	0519	1501	35978	403	2674	15172
112	0702	1181	35509	352	2704	15090
125	0761	1027	35324	351	2718	15043
125	0919	0823	35217	388	2743	14992
125	1080	0598	35064	473	2763	14929
125	1229	0532	35065	509	2771	14928
125	1408	0479	35053	554	2776	14936
125	1565	0432	35015	565	2779	14942
125	1946	0383	34978	582	2781	14986
125	2419	0349	34963	580	2783	15052
125	2750	0319	34957	585	2785	15096

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1732 B	36454		2657	15163	0000	00000	1475
0010	1746	36465		2654	15168	0015	00001	1503
0020	1748	36466		2654	15171	0030	00003	1509
0030	1746	36465		2654	15172	0045	00007	1510
0050	1746	36463		2654	15175	0076	00020	1519
0075	1746	36463		2654	15179	0114	00044	1527
0100	1746	36464		2654	15183	0153	00079	1536
0125	1747	36463		2654	15188	0192	00124	1546
0150	1747	36465		2654	15192	0231	00179	1554
0175	1747	36465		2654	15196	0270	00244	1562
0200	1747	36461		2654	15200	0309	00320	1574
0225	1747	36457		2653	15204	0349	00407	1586
0250	1746	36453		2653	15208	0389	00505	1595
0300	1734	36422		2654	15212	0470	00733	1606

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1689 B	3632 B		2657	15214	0632	01315	1605
0500	1540 B	3605 B		2671	15181	0789	02037	1500
0600	1373 E	3577 E		2686	15141	0934	02855	1375
0700	1185	35514		2703	15091	1064	03724	1211
0800	0963 E	3527 F		2725	15026	1176	04582	1004
1000	0701 D	3513 C		2754	14958	1350	06163	0715
1200	0539 B	3506 B		2770	14925	1480	07609	0559
1500	0451	35031		2778	14939	1639	09817	0491
2000	0379	34975		2781	14993	1886	14259	0479
2500	0337 B	34958		2784	15061	2128	19875	0471

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2724	AIR T 17.0	VIS 98
CONS. NO 007	MONTH 4	MXSAMPD 34	WAVES 2 24X5	WET B 12.8	STN
LAT 39-270N	DAY 15	NO.DPTH 22	WND-DIR 280	WW-CODE 03	
LON 49-497W	HR 17.7	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1008.8	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
177	0000	174 B	36487		2658	15165
177	0009	1745	36453		2654	15168
177	0028	1744	36452	505	2654	15171
177	0070	1744	36461		2655	15178
177	0094	1743	36462	512	2655	15181
177	0142	1746	36462	509	2654	15190
177	0189	1745	36457	504	2654	15197
177	0237	1744	36452	505	2654	15205
177	0281	1745	36456	510	2654	15213
177	0380	1745	36455	506	2654	15229
177	0475	1672	36278	454	2658	15221
177	0568	1548	36026	408	2667	15195
177	0765	1150	35463	341	2706	15089
188	0970	0720	35068	387	2746	14959
188	1170	0544	35061	498	2769	14923
188	1370	0443	34983	570	2775	14914
188	1558	0418	34984	585	2778	14935
188	1757	0400	34987	596	2780	14961
188	1950	0387	34982	598	2781	14988
188	2441	0353	34960	598	2782	15057
188	2935	0319	34956	588	2785	15128
188	3438	0279	34936	596	2787	15198

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1740 B	36487		2658	15165	0000	00000	1470
0010	1745	36452		2654	15168	0015	00001	1511
0020	1745	3645 B		2653	15170	0030	00003	1518
0030	1744	36452		2654	15171	0046	00007	1514
0050	1744	36456		2654	15174	0076	00020	1518
0075	1744	36461		2655	15178	0114	00044	1523
0100	1743	36462		2655	15182	0153	00079	1530
0125	1745	36462		2654	15187	0191	00123	1542
0150	1746	36461		2654	15191	0230	00178	1554
0175	1746	36459		2654	15195	0270	00244	1563
0200	1745	36455		2654	15199	0309	00320	1572
0225	1744	36453		2654	15203	0349	00407	1581
0250	1744	36453		2654	15207	0389	00504	1590
0300	1748	3646 B		2654	15217	0470	00732	1608

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1735	36428		2654	15229	0633	01321	1637
0500	1643	36215		2660	15215	0797	02078	1611
0600	1490 B	3593 B		2673	15181	0954	02966	1507
0700	1292 C	3564 C		2692	15129	1098	03918	1330
0800	1068 C	3538 B		2714	15065	1221	04867	1117
1000	0684 B	3506 C		2751	14950	1410	06572	0744
1200	0524	35049		2771	14919	1541	08032	0547
1500	0422	34980		2777	14927	1698	10213	0490
2000	0384	34980		2781	14995	1946	14668	0483
2500	0349	34959		2783	15066	2193	20411	0487
3000	0313	34948		2785	15137	2438	27394	0476

C-REF-NO 001	YR 1963	DEPTH 5300	WAVES 1 2424	AIR T 16.8	VIS 98
CONS. NO 008	MONTH 4	MXSAMPD 31	WAVES 2 24X5	WET B 12.7	STN
LAT 40-000N	DAY 16	NO.DPTH 22	WND-DIR 260	WW-CODE 01	
LUN 50-000W	HR 00.1	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 150		W-TRNSP	BARO 1009.2	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
001	0000	175 B	36488		2655	15168
001	0008	1754	36474		2653	15171
001	0025	1742 B	36455	571	2655	15170
001	0065	1735 B	36470		2657	15174
001	0088	1731 B	36448	571	2657	15177
001	0135	1731	36443	519	2656	15184
001	0180	1731	36442	514	2656	15192
001	0225	1731	36439	519	2656	15199
001	0269	1731	36437	519	2656	15206
001	0362	1715	36433	525	2659	15217
001	0455	1624	36223	491	2665	15202
001	0549	1481	35942	393	2676	15170
001	0738	1088	35406	363	2713	15062
017	0858	0794	35088	360	2737	14969
017	1023	0564	34994	475	2761	14905
017	1182	0489	35016	534	2772	14902
017	1325	0453	34997	560	2775	14910
017	1488	0423	34989	584	2777	14925
017	1642	0402	34975	600	2779	14942
017	2114	0367	34962	602	2781	15007
017	2620	0334	34957	592	2784	15080
017	3075	0299	34948	590	2787	15143

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1750 B	36488		2655	15168	0000	00000	1492
0010	1753	36471		2653	15171	0015	00001	1515
0020	1747 B	36459		2654	15170	0030	00003	1512
0030	1740 B	36456		2655	15170	0046	00007	1503
0050	1736 B	3646 B		2657	15172	0076	00019	1494
0075	1733	36461		2657	15175	0113	00044	1498
0100	1730 B	36444		2657	15178	0151	00078	1513
0125	1731	36442		2656	15182	0190	00122	1524
0150	1731	36443		2656	15187	0228	00176	1533
0175	1731	36442		2656	15191	0267	00241	1541
0200	1731	36441		2656	15195	0306	00316	1551
0225	1731	36439		2656	15199	0345	00402	1561
0250	1731	36438		2656	15203	0384	00498	1571
0300	1731	3645 C		2657	15211	0464	00722	1580

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1685	3636 B		2661	15213	0623	01293	1568
0500	1561	36092		2669	15189	0778	02011	1514
0600	1386	35793		2685	15146	0925	02835	1384
0700	1176	35510		2705	15088	1055	03701	1197
0800	0932 C	3523 C		2726	15013	1165	04545	0983
1000	0585	3499 B		2759	14910	1330	06040	0649
1200	0483	35014		2773	14902	1448	07364	0517
1500	0421	34988		2778	14927	1601	09472	0483
2000	0373	34963		2781	14991	1845	13890	0480
2500	0342	34958		2783	15063	2089	19558	0478
3000	0305	34949		2786	15133	2329	26370	0462

C-REF-NO 001	YR 1963	DEPTH 4200	WAVES 1 2424	AIR T 16.3	VIS 98
CONS. NO 009	MONTH 4	MXSAMPD 20	WAVES 2 27X4	WET B 13.2	STN
LAT 40-295N	DAY 16	NO.DPTH 20	WND-DIR 270	WW-CODE 03	
LON 49-552W	HR 06.4	W-COLOR	WND-SPD 07	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1007.3	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
064	0000	174 B	36471		2656	15165
064	0009	1732	36399		2653	15163
064	0025	1732	36397	492	2653	15166
064	0060	1698	36318		2655	15161
064	0080	1688	36297	507	2656	15161
064	0125	1675	36272	502	2657	15164
064	0165	1611	36139	500	2662	15149
064	0210	1594	36130	482	2665	15152
092	0238	1535	36021	420	2670	15137
064	0330	1342	35624	502	2681	15085
064	0403	1269	35545	480	2690	15071
064	0471	1206	35541	342	2702	15061
079	0620	0800	35091	345	2737	14932
079	0715	0651	35018	407	2752	14889
079	0819	0568	35032	471	2764	14873
079	0910	0489	34992	518	2770	14856
092	1287	0403	34960	608	2777	14883
092	1609	0388	34974	604	2780	14931
092	1803	0373	34969	608	2781	14957
092	1995	0362	34970	608	2782	14985

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1740 B	36471		2656	15165	0000	00000	1481
0010	1732	36397		2653	15163	0015	00001	1520
0020	1732	3639 B		2652	15165	0030	00003	1527
0030	1728	36387		2653	15165	0046	00007	1525
0050	1709	3634 B		2654	15163	0076	00020	1520
0075	1690	36301		2655	15161	0115	00044	1516
0100	1685 B	3629 B		2656	15163	0153	00079	1520
0125	1675	36272		2657	15164	0191	00123	1519
0150	1635 B	3619 C		2660	15155	0229	00176	1499
0175	1609 B	3614 D		2662	15150	0267	00239	1484
0200	1599 B	3613 D		2664	15152	0304	00311	1474
0225	1565	36077		2667	15144	0341	00391	1448
0250	1507	3596 C		2672	15129	0377	00479	1414
0300	1399 B	3574 E		2678	15100	0447	00677	1365
0400	1271	35545		2689	15072	0580	01154	1278
0500	1133 H	3546 I		2709	15039	0701	01705	1103

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0859 F	3516 G		2733	14952	0800	02264	0875
0700	0669	35021		2750	14894	0880	02793	0704
0800	0580	3503 B		2762	14875	0946	03295	0589
1000	0447 E	3497 B		2773	14854	1054	04284	0479
1200	0402 E	3496 B		2777	14868	1148	05353	0454
1500	0391 B	34969		2779	14914	1287	07282	0457
2000	0362	34970		2782	14986	1520	11485	0459

C-REF-NO 001	YR 1963	DEPTH 3650	WAVES 1 3222	AIR T 11.0	VIS 97
CONS. NO 010	MONTH 4	MXSAMPD 34	WAVES 2 33X4	WET B 08.0	STV
LAT 40-578N	DAY 16	NO.DPTH 22	WND-DIR 300	WW-CODE 61	
LON 49-458W	HR 13.9	W-COLOR	WND-SPD 09	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1010.1	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
139	0000	141 B	35907		2688	15056
139	0009	1410	35836		2683	15057
139	0025	1410	35835	582	2683	15059
139	0065	1408	35835		2683	15065
139	0090	1404	35831	573	2684	15068
139	0135	1352	35709	557	2685	15057
139	0180	1301	35591	563	2687	15046
139	0228	1215	35442	489	2692	15023
139	0277	1132	35445	338	2708	15002
139	0372	0892	35178	349	2729	14927
139	0467	0730	35069	440	2745	14880
139	0565	0546	34925	498	2758	14821
139	0771	0480	35010	566	2773	14829
150	0965	0402	34951	616	2777	14828
150	1156	0389	34951	605	2778	14855
150	1353	0376	34946	645	2779	14882
150	1533	0373	34962	628	2781	14911
150	1732	0366	34974	626	2782	14942
150	1926	0358	34978	615	2783	14972
150	2428	0321	34960	635	2785	15041
150	2935	0280 B	34950	620	2789	15111
150	3440	0233	34932	614	2791	15179

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1410 B	35907		2688	15056	0000	00000	1177
0010	1410	35834		2683	15057	0012	00001	1234
0020	1410	3583 B		2682	15059	0025	00003	1242
0030	1410	35835		2683	15060	0037	00006	1238
0050	1409	35835		2683	15063	0062	00016	1243
0075	1408	35836		2683	15067	0093	00036	1246
0100	1395	3581 B		2684	15067	0125	00064	1247
0125	1366	3574 B		2685	15060	0156	00101	1245
0150	1337	35671		2686	15054	0188	00145	1246
0175	1307	35605		2686	15047	0219	00197	1244
0200	1267	3552 B		2688	15037	0250	00258	1234
0225	1221	35449		2692	15024	0281	00325	1205
0250	1179	3544 D		2699	15014	0311	00397	1142
0300	1075 C	3539 E		2714	14985	0365	00549	1003

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0841 B	3514 B		2734	14912	0457	00875	0821
0500	0664 B	3502 B		2750	14859	0532	01219	0669
0600	0520 E	3493 E		2761	14816	0594	01568	0559
0700	0479 I	3496 I		2769	14817	0647	01923	0495
0800	0467	3500 B		2774	14829	0696	02294	0459
1000	0397	34949		2777	14832	0786	03129	0434
1200	0386	34949		2778	14861	0874	04130	0438
1500	0373	34959		2780	14906	1008	05993	0442
2000	0353	34976		2784	14983	1233	10052	0443
2500	0315	34959		2786	15052	1458	15268	0439
3000	0274	34945		2789	15120	1676	21475	0418

C-REF-NO 001	YR 1963	DEPTH 3300	WAVES 1 3211	AIR T 07.2	VIS 98
CONS. NO 011	MONTH 4	MXSAMPD 23	WAVES 2 34X4	WET B 05.8	STN
LAT 41-174N	DAY 16	NO.DPTH 22	WND-DIR 280	WW-CODE 03	
LON 49-478W	HR 22.4	W-COLOR	WND-SPD 11	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1011.5	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
224	0000	0485 B	33194		2629	14678
224	0009	0481	33241	797	2633	14680
224	0025	1154	35080	640	2676	14964
224	0060	1344	35668	555	2684	15042
224	0080	1342	35670	558	2684	15044
224	0135	1192	35353	541	2690	14999
224	0150	1169	35417	410	2699	14994
224	0190	1077	35307	384	2707	14967
224	0236	0928	35190	333	2724	14919
224	0309	0713	34957	402	2739	14846
224	0369	0530	34785	518	2749	14780
224	0444	0581	35038	491	2763	14817
224	0599	0446	34955	579	2772	14786
#258	0803	0419	34972	606	2777	14809
#258	0946	0380	34948	660	2779	14816
#258	1088	0372	34944	689	2779	14836
#258	1215	0366	34931	655	2779	14855
#258	1347	0354	34936	627	2780	14872
#258	1456	0352	34929	627	2780	14889
#258	1792	0365	34979	623	2783	14952
#258	2177	0340	34977	621	2785	15007
#258	2350	0325	34974	583	2786	15030

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0485 B	33194		2628	14680	0000	00000	1746
0010	0516 F	3334 I		2636	14696	0017	00001	1672
0020	0917 I	3444 I		2667	14869	0033	00003	1383
0030	1243 I	3533 I		2678	14998	0046	00007	1282
0050	1392 I	3578 I		2682	15057	0072	00017	1249
0075	1348	3568 B		2684	15045	0103	00037	1237
0100	1294 F	3553 I		2684	15030	0134	00065	1250
0125	1223 D	3540 I		2687	15008	0165	00101	1223
0150	1169	35417		2699	14994	0195	00143	1114
0175	1116	3537 E		2705	14979	0222	00188	1059
0200	1046	35282		2711	14957	0248	00238	1008
0225	0965	35219		2720	14931	0273	00291	0925
0250	0886	35147		2727	14905	0295	00346	0857

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	0739	34987		2737	14855	0336	00461	0765
0400	0537 H	3487 I		2755	14789	0405	00704	0597
0500	0545 H	3505 I		2768	14812	0459	00955	0487
0600	0446	34955		2772	14786	0507	01221	0447
0700	0424 D	3496 C		2775	14794	0551	01517	0430
*0800	0419	34971		2776	14808	0594	01850	0424
1000	0375	34946		2779	14823	0679	02630	0409
1200	0367	34932		2779	14853	0763	03593	0427
1500	0354	34934		2780	14898	0894	05419	0435
2000	0355	34982		2784	14983	1117	09438	0441

C-REF-NO 001	YR 1963	DEPTH 3650	WAVES 1 3422	AIR T 05.6	VIS 98
CUNS. NO 012	MONTH 4	MXSAMPD 35	WAVES 2 34X4	WET B 05.0	STN
LAT 41-367N	DAY 17	NU.DPTH 22	WND-DIR 280	WW-CODE 03	
LON 49-493W	HR 06.9	W-COLOR	WND-SPD 11	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1013.4	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
069	0000	0532 B	33460		2644	14702
069	0010	0530	33460		2644	14704
069	0029	0521	33460	751	2645	14703
069	0073	0402	33542		2665	14662
069	0097	0389	33862	692	2691	14665
069	0146	0590	34619	492	2729	14766
069	0194	0464	34601	537	2742	14722
069	0243	0641	34996	443	2752	14807
069	0293	0590	34994	470	2758	14795
069	0394	0487	34973	539	2769	14769
069	0492	0435	34948	589	2773	14764
069	0592	0425	34969	608	2776	14776
069	0794	0421	35001	595	2779	14809
078	0996	0385	34973	621	2780	14827
078	1195	0372	34965	629	2781	14854
078	1392	0355	34952	640	2782	14880
078	1583	0348	34952	643	2782	14909
078	1795	0340	34955	626	2783	14942
078	1981	0336	34964	614	2784	14972
078	2465	0309	34948	605	2786	15043
078	2956	0269	34917	607	2787	15110
078	3454	0227	34917	626	2790	15178

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0532 B	33460		2644	14703	0000	00000	1597
0010	0530	33460		2644	14704	0016	00001	1596
0020	0527	33459		2645	14704	0032	00003	1595
0030	0518	33458		2645	14702	0048	00007	1587
0050	0465 F	3345 H		2651	14683	0080	00020	1537
0075	0399	33564		2667	14661	0116	00044	1387
0100	0402 C	3392 C		2695	14671	0148	00072	1126
0125	0506 I	3433 I		2716	14724	0174	00101	0927
0150	0580 D	3462 E		2730	14762	0196	00132	0800
0175	0515 I	3463 I		2738	14740	0215	00164	0723
0200	0483 E	3465 E		2744	14732	0233	00198	0675
0225	0571 I	3485 I		2749	14774	0249	00234	0632
0250	0641 C	3501 C		2753	14808	0265	00272	0606
0300	0582	34993		2759	14793	0294	00354	0549

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0483	34971		2769	14768	0345	00534	0457
0500	0433	34949		2773	14764	0389	00740	0427
0600	0425	34971		2776	14778	0432	00979	0411
0700	0424	34991		2778	14794	0473	01255	0405
0800	0420	35000		2779	14809	0514	01571	0404
1000	0385	34973		2780	14827	0595	02326	0401
1200	0372	34965		2781	14855	0677	03257	0409
1500	0350	34951		2782	14897	0803	05010	0418
2000	0335	34964		2784	14975	1018	08891	0427
2500	0306	34946		2786	15048	1237	13999	0435
3000	0267	3492 B		2788	15117	1457	20227	0424
3500	0223	34917		2791	15185	1664	27165	0385

C-REF-NU 001	YR 1963	DEPTH 3500	WAVES 1 3211	AIR T 03.8	VIS 98
CUNS. NO 013	MONTH 4	MXSAMPD 34	WAVES 2 34X3	WET B 03.2	STN
LAT 41-570N	DAY 17	NO.DPTH 22	WND-DIR 290	WW-CODE 02	
LON 49-490W	HR 11.6	W-COLOR	WND-SPD 09	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1016.3	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
116	0000	0488 B	33406		2646	14681
116	0009	0474	33385		2645	14679
116	0028	0469	33415	776	2648	14681
116	0070	0403	33730		2680	14664
116	0092	0471	34139	635	2705	14702
116	0140	0510	34606	529	2737	14732
116	0188	0479	34743	539	2752	14729
116	0237	0457	34800	559	2759	14729
116	0287	0484	34917	546	2765	14750
116	0388	0468	34954	571	2770	14760
116	0483	0470	35001	570	2773	14777
116	0586	0452	34998	588	2775	14787
116	0784	0417	34993	603	2778	14805
128	0993	0395	34983	617	2780	14830
128	1193	0379	34968	623	2780	14857
128	1390	0370	34969	627	2781	14886
128	1570	0357	34958	626	2782	14911
128	1775	0347	34967	621	2784	14941
128	1972	0331	34965	616	2785	14968
128	2468	0296	34952	610	2787	15038
128	2975	0255	34931	612	2789	15107
128	3365	0230 B	34925	645	2791	15164

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0488 B	33406		2645	14684	0000	00000	1590
0010	0474	33384		2645	14679	0016	00001	1592
0020	0470	33392		2646	14680	0032	00003	1584
0030	0464 B	33419		2649	14679	0048	00007	1558
0050	0423 G	3352 D		2661	14667	0078	00020	1442
0075	0417 B	3382 C		2685	14672	0111	00041	1212
0100	0485	3425 B		2712	14710	0139	00065	0965
0125	0510 B	3451 C		2730	14728	0161	00090	0800
0150	0506	3465 B		2741	14733	0180	00117	0693
0175	0490 B	3473 C		2749	14731	0197	00144	0622
0200	0471	3476 B		2754	14728	0212	00173	0579
0225	0460	3479 B		2757	14728	0226	00204	0548
0250	0463	3483 B		2761	14734	0239	00237	0521
0300	0484	3493 B		2766	14752	0265	00308	0478

DEPTH	T E M P	S . A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0468	34961		2770	14762	0311	00476	0447
0500	0468	35002		2774	14779	0356	00680	0427
0600	0449	34998		2775	14788	0398	00922	0420
0700	0431	34995		2777	14797	0440	01202	0411
0800	0415	34992		2779	14807	0482	01520	0404
1000	0394	34982		2780	14832	0564	02280	0406
1200	0379	34968		2780	14858	0647	03224	0415
1500	0362	34962		2782	14902	0775	05005	0425
2000	0329	34965		2785	14972	0989	08867	0418
2500	0293	34951		2787	15042	1200	13782	0413
3000	0255	34934		2789	15112	1407	19663	0399

C-REF-NO 001	YR 1963	DEPTH 2800	WAVES 1 3211	AIR T 03.6	VIS 98
CONS. NO 014	MONTH 4	MXSAMPD 24	WAVES 2 31X3	WET B 03.4	STN
LAT 42-168N	DAY 17	NO.DPTH 20	WND-DIR 350	WW-CODE 02	
LUN 49-580W	HR 17.9	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1016.2	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
179	0000	048 B	33469		2651	14681
179	0010	0470	33468		2652	14679
179	0030	0450	33463	773	2654	14674
179	0073	0568	33232		2622	14726
179	0098	0658	34559	523	2715	14784
179	0147	0678	34751	455	2727	14803
179	0196	0542	34707	500	2741	14756
179	0244	0516 C	34802	521	2752	14754
179	0294	0494	34878	542	2761	14754
179	0396	0498	34986	559	2769	14774
179	0493	0444	34966	567	2773	14768
179	0592	0408	34948	626	2776	14769
179	0792	0386	34946	640	2778	14793
187	0981	0373	34942	642	2779	14819
187	1174	0362	34939	646	2780	14846
187	1373	0364	34956	637	2781	14881
187	1557	0356	34956	631	2782	14908
187	1757	0342	34945	630	2782	14936
187	1956	0334	34952	631	2784	14966
187	2450	0298	34948	629	2787	15035

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0480 B	33469		2651	14681	0000	00000	1534
0010	0470	33468		2652	14679	0015	00001	1525
0020	0457	33470		2653	14675	0031	00003	1512
0030	0450	33463		2654	14674	0046	00007	1510
0050	0488 D	3318 I		2627	14689	0079	00021	1767
0075	0576	3333 H		2629	14731	0123	00049	1750
0100	0662	3460 G		2718	14787	0157	00078	0915
0125	0691	3488 I		2735	14806	0178	00102	0751
0150	0670 B	3475 B		2728	14800	0198	00130	0822
0175	0603 F	3473 E		2736	14777	0217	00163	0752
0200	0538	34713		2742	14755	0236	00198	0690
0225	0520 C	3476 B		2748	14752	0252	00235	0638
0250	0513 C	34812		2753	14754	0268	00272	0593
0300	0494	34887		2761	14756	0296	00351	0521
0400	0496	34986		2769	14774	0346	00528	0461
0500	0441	34965		2774	14768	0390	00734	0424

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0406	34948		2776	14770	0432	00972	0407
0700	0391 B	34944		2777	14780	0473	01245	0402
0800	0385	34946		2778	14794	0514	01560	0404
1000	0372	34941		2779	14821	0596	02323	0409
1200	0362	34941		2780	14851	0680	03269	0415
1500	0359	34957		2782	14900	0807	05048	0424
2000	0328	3495 B		2784	14972	1025	08979	0431

C-REF-NO 001	YR 1963	DEPTH 1375	WAVES 1 3211	AIR T 01.7	VIS 96
CONS. NO 015	MONTH 4	MXSAMPD 12	WAVES 2 33X3	WET B 01.4	STN
LAT 42-398N	DAY 17	NO.DPTH 15	WND-DIR 350	WW-CODE 53	
LON 50-000W	HR 22.4	W-COLOR	WND-SPD 08	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARD 1016.8	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
224	0000	-0002 B	33081		2658	14466
224	0010	-0028	33075		2659	14455
224	0029	-0106	33228	819	2674	14424
224	0073	-0072	33508		2696	14451
224	0097	0005	33736	778	2711	14494
224	0146	0169	34184	694	2736	14582
224	0194	0213	34335	673	2745	14611
224	0244	0243	34435	671	2751	14634
224	0291	0254	34503	688	2755	14647
224	0393	0327	34711	689	2765	14698
230	0493	0389	34884	661	2773	14744
230	0594	0383	34893	676	2774	14758
230	0793	0383	34909	678	2775	14791
230	1000	0374	34910	677	2776	14822
230	1204	0373	34927	656	2778	14856

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0002 B	33081		2658	14465	0000	00000	1464
0010	-0028	33075		2659	14455	0015	00001	1457
0020	-0070 B	3314 C		2666	14438	0029	00003	1388
0030	-0108	33234		2675	14423	0043	00006	1305
0050	-0117 C	3336 D		2685	14424	0068	00017	1207
0075	-0066	33526		2697	14454	0097	00035	1094
0100	0017	33768		2713	14500	0123	00058	0946
0125	0106 C	3401 D		2727	14548	0145	00083	0813
0150	0175	34203		2737	14585	0164	00110	0717
0175	0203 B	3430 C		2743	14603	0182	00140	0670
0200	0218	34349		2746	14614	0198	00171	0642
0225	0234	34402		2749	14626	0214	00206	0616
0250	0244	34444		2751	14636	0229	00243	0595
0300	0259	34520		2756	14651	0258	00325	0554
0400	0333	34726		2766	14702	0310	00510	0476
0500	0390	34887		2773	14745	0356	00719	0424
0600	0383	34894		2774	14759	0398	00960	0421
0700	0383	34903		2775	14776	0441	01246	0423
0800	0383	34909		2775	14792	0484	01579	0428
1000	0374	34910		2776	14822	0571	02389	0435
1200	0373	34927		2778	14855	0660	03392	0439

C-REF-NO 001	YR 1963	DEPTH 73	WAVES 1 3211	AIR T 01.1	VIS 97
CONS. NO 016	MONTH 4	MXSAMPD 01	WAVES 2 32X2	WET B 01.0	STN
LAT 43-000N	DAY 18	NO.DPTH 6	WND-DIR 040	WW-CODE 52	
LON 50-000W	HR 02.0	W-COLOR	WND-SPD 07	CLD-TPE 6	
MARSD SQ 150		W-TRNSP	BARO 1017.4	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
020	0000	014 B	32961		2640	14528
020	0010	0138	32951	891	2640	14529
020	0020	0139	32950	886	2640	14531
020	0030	0037	33078	877	2656	14488
020	0050	-0043	33233	837	2672	14457
020	0070	-0047	33325	812	2680	14460

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0140 B	32961		2640	14528	0000	00000	1631
0010	0138	32951		2640	14529	0016	00001	1638
0020	0139	32950		2640	14531	0033	00003	1639
0030	0037	33078		2656	14488	0049	00007	1484
0050	-0043	33233		2672	14457	0077	00019	1328

C-REF-NO 001	YR 1963	DEPTH 2500	WAVES 1 0511	AIR T 00.6	VIS 96
CONS. NO 017	MONTH 4	MXSAMPD 20	WAVES 2 05X2	WET B 00.6	STN
LAT 42-395N	DAY 18	NO.DPTH 19	WND-DIR 050	WW-CODE 41	
LON 49-370W	HR 06.1	W-COLOR	WND-SPD 09	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1015.3	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
061	0000	-0004 B	33120		2661	14467
061	0008	-0009	33124		2662	14464
061	0025	0024	33193	860	2666	14483
061	0065	0104	33778		2708	14534
061	0090	0299	34249	664	2731	14630
061	0135	0224	34336	698	2744	14606
061	0180	0402	34676	594	2755	14695
061	0225	0448	34815	566	2761	14723
061	0271	0442	34873	591	2766	14729
061	0366	0398	34880	592	2771	14726
061	0456	0391	34907	655	2774	14739
061	0550	0392	34893	649	2773	14754
061	0740	0375	34909	664	2776	14779
067	0985	0355	34904	667	2778	14811
067	1187	0352	34904	666	2778	14844
067	1384	0352	34905	665	2778	14877
067	1569	0347	34919	655	2780	14906
067	1762	0345	34932	644	2781	14938
067	1955	0339	34944	640	2782	14968

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	-0004 B	33120		2661	14465	0000	00000	1433
0010	-0007	33127		2662	14466	0014	00001	1426
0020	0011	33163		2664	14476	0029	00003	1407
0030	0026 C	3324 C		2670	14485	0043	00006	1352
0050	0057 F	3351 E		2690	14507	0068	00017	1164
0075	0185 F	3398 E		2719	14575	0094	00033	0891
0100	0295 I	3430 I		2735	14631	0114	00051	0739
0125	0253 I	3435 I		2743	14618	0132	00071	0668
0150	0277 G	3445 F		2749	14633	0148	00094	0615
0175	0379 C	3464 C		2754	14684	0163	00119	0570
0200	0434 B	3476 B		2758	14712	0177	00146	0541
0225	0448	34815		2761	14723	0191	00175	0514
0250	0449	34854		2764	14728	0203	00206	0488
0300	0429 B	3488 B		2768	14728	0227	00273	0451
0400	0393	34891		2773	14730	0271	00429	0415
0500	0391	34902		2774	14746	0313	00623	0415
0600	0389	34895		2774	14761	0355	00864	0426

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0700	0380	34904		2775	14774	0398	01150	0419
0800	0369	34909		2777	14787	0440	01474	0412
1000	0355	34904		2778	14814	0524	02252	0416
1200	0352	34904		2778	14846	0609	03225	0430
1500	0349	34913		2779	14895	0742	05078	0444

C-REF-NO 001	YR 1963	DEPTH 3100	WAVES 1 2012	AIR T 01.5	VIS 95
CONS. NO 018	MONTH 4	MXSAMPD 31	WAVES 2 24X4	WET B 01.5	STN
LAT 42-170N	DAY 18	NO.DPTH 21	WND-DIR 010	WW-CODE 22	
LON 49-111W	HR 11.3	W-COLOR	WND-SPD 10	CLD-TPE X	
MARSD SQ 149		W-TRNSP	BARO 1016.2	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
113	0000	0465 B	33418		2649	14672
113	0009	0464	33405		2647	14675
113	0027	0464	33405	781	2647	14678
113	0064	0444	33526		2659	14678
113	0086	0501	33962	671	2687	14711
113	0130	0672	34676	479	2722	14797
113	0173	0525	34669	514	2741	14744
113	0218	0496	34732	525	2749	14741
113	0268	0462	34765	550	2755	14735
113	0358	0476	34896	554	2764	14758
113	0458	0465	34954	570	2770	14771
113	0546	0454	34971	585	2773	14781
113	0740	0419	34978	605	2777	14798
120	0936	0369	34927	672	2778	14809
120	1125	0360	34927	652	2779	14837
120	1315	0359	34906	646	2777	14868
120	1510	0350	34975	594	2784	14898
132	1884	0334	34956	627	2784	14954
132	2091	0321	34950	639	2785	14984
132	2600	0285	34948	661	2788	15056
132	3065	0246	34930	653	2790	15119

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0465 B	33418		2648	14675	0000	00000	1557
0010	0464	33404		2647	14676	0016	00001	1567
0020	0464	33401		2647	14677	0032	00003	1571
0030	0460	3340 C		2647	14677	0047	00007	1570
0050	0445 D	3343 H		2651	14674	0079	00020	1535
0075	0468	3373 E		2673	14692	0115	00043	1333
0100	0569 G	3424 F		2701	14745	0145	00070	1067
0125	0659 C	3462 C		2720	14790	0170	00098	0900
0150	0616 I	3471 I		2733	14778	0191	00128	0779
0175	0522	34671		2741	14744	0210	00159	0700
0200	0500 C	3470 B		2746	14739	0227	00192	0652
0225	0490	34737		2750	14740	0243	00227	0620
0250	0473	34754		2753	14737	0258	00264	0590
0300	0463 B	3481 B		2759	14742	0287	00344	0542
0400	0473	34928		2767	14764	0338	00528	0477

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0500	0460	34965		2771	14776	0385	00743	0446
0600	0446	34978		2774	14786	0429	00993	0430
0700	0427	34981		2776	14795	0472	01279	0417
0800	0402	3496 B		2778	14801	0514	01602	0411
1000	0363	34925		2779	14818	0597	02373	0411
1200	0360	3492 B		2778	14849	0682	03342	0431
1500	0351	34971		2784	14897	0809	05102	0403
2000	0327	34952		2784	14971	1019	08912	0424
2500	0293	34948		2787	15042	1233	13862	0413
3000	0252	34932		2790	15111	1439	19713	0395

C-REF-NO 001	YR 1963	DEPTH 3300	WAVES 1 2422	AIR T 02.7	VIS 98
CONS. NO 019	MONTH 4	MXSAMPD 27	WAVES 2 24X4	WET B 01.8	STN
LAT 41-540N	DAY 18	NO.DPTH 20	WND-DIR 350	WW-CODE 03	
LON 48-410W	HR 18.8	W-COLOR	WND-SPD 10	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1016.3	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
188	0000	048 B	33350		2641	14680
188	0008	0479	33329		2640	14680
188	0027	0473	33351	746	2642	14681
188	0065	0907	34795		2697	14878
188	0089	0956	34943	534	2700	14902
188	0130	0905	35007	422	2714	14890
188	0175	0913	35130	362	2722	14902
188	0220	0604	34818	430	2742	14786
188	0355	0565	34922	483	2756	14794
188	0439	0503	34950	522	2765	14783
188	0528	0475	34970	555	2770	14786
188	0719	0430	34992	603	2777	14800
200	0900	0413	34988	604	2778	14823
200	1077	0383	34950	626	2779	14839
200	1253	0384	34973	619	2780	14869
200	1414	0375	34977	615	2782	14892
200	1590	0366	34982	610	2783	14918
200	1763	0352 B	34969	621	2783	14942
200	2235	0320	34964	621	2786	15008
200	2716	0279	34947	636	2788	15073

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0480 B	33350		2641	14680	0000	00000	1624
0010	0475 B	3332 B		2639	14679	0016	00001	1643
0020	0467 C	3331 E		2640	14677	0033	00003	1642
0030	0504 F	3346 I		2647	14696	0049	00008	1571
0050	0726 I	3420 I		2678	14799	0078	00019	1288
0075	0942 B	3490 G		2699	14893	0108	00038	1092
0100	0948 D	3497 C		2704	14901	0135	00062	1054
0125	0914 B	3500 B		2712	14893	0161	00092	0981
0150	0924 H	3509 G		2717	14902	0185	00126	0941
0175	0913	35130		2722	14902	0208	00164	0896
0200	0752 I	3497 H		2734	14843	0229	00205	0776
0225	0591 D	3481 C		2743	14782	0248	00245	0687
0250	0541 I	3478 I		2747	14765	0264	00286	0652
*0300	0505 I	3479 I		2752	14759	0296	00376	0606
0400	0531 B	34939		2761	14788	0354	00582	0539
0500	0481	34965		2769	14784	0405	00816	0472

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0600	0455	34982		2773	14790	0451	01076	0439
0700	0433	34991		2776	14798	0494	01365	0417
0800	0422	34994		2778	14810	0536	01688	0411
1000	0395	3497 B		2778	14832	0620	02467	0419
1200	0383	34964		2780	14860	0706	03436	0423
1500	0371	34981		2782	14906	0834	05226	0422
2000	0336 B	34964		2784	14975	1050	09129	0428
2500	0297 B	3495 B		2787	15044	1266	14126	0418

C-REF-NO 001	YR 1963	DEPTH 3660	WAVES 1 3522	AIR T 04.0	VIS 98
CONS. NO 020	MONTH 4	MXSAMPD 34	WAVES 2 32X3	WET B 02.5	STN
LAT 41-307N	DAY 19	NO.DPTH 22	WND-DIR 010	WW-CODE 02	
LON 48-103W	HR 00.6	W-COLOR	WND-SPD 06	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1018.7	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
006	0000	0565 B	33490		2643	14715
006	0008	0562	33518		2645	14717
006	0027	1206	35374	591	2689	14986
006	0067	1202	35389		2691	14991
006	0090	1204	35387	574	2690	14996
006	0133	1210	35400	570	2690	15005
006	0175	1146	35339	449	2697	14989
006	0217	1024	35284	337	2715	14952
006	0258	0790	34944	402	2726	14867
006	0336	0648	34953	439	2747	14825
006	0415	0576	35010	486	2761	14810
006	0502	0486	34960	551	2768	14787
006	0691	0452	34991	586	2774	14804
016	0980	0378	34944	636	2779	14821
016	1176	0365	34941	647	2780	14848
016	1375	0362	34939	647	2780	14880
016	1553	0353	34948	641	2781	14906
016	1739	0346	34947	630	2782	14935
016	1928	0336	34941	608	2783	14962
016	2411	0304	34950	634	2786	15031
016	2925	0262	34933	636	2789	15102
016	3410	0224	34916	642	2791	15169

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0565 B	33490		2643	14717	0000	00000	1612
0010	0618 I	3368 I		2651	14742	0016	00001	1532
0020	0940 I	3461 I		2677	14880	0030	00003	1288
0030	1238 I	3547 I		2690	14998	0042	00006	1172
0050	1316 I	3571 I		2693	15031	0066	00016	1151
0075	1202	35388		2690	14993	0095	00035	1177
0100	1208	35392		2690	14999	0125	00061	1192
0125	1212	35400		2690	15004	0155	00096	1199
0150	1192	35379		2692	15001	0185	00139	1183
0175	1146	35339		2697	14989	0214	00187	1136
0200	1084	3532 D		2708	14971	0242	00240	1043
0225	0978 C	3522 E		2718	14936	0267	00295	0946
0250	0836 C	3501 E		2725	14884	0290	00351	0879
0300	0684 G	3489 I		2738	14832	0331	00467	0758

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0587	3500 B		2759	14812	0398	00702	0563
0500	0488	34962		2768	14787	0451	00944	0482
0600	0455 E	3497 C		2772	14790	0498	01209	0450
0700	0449	34990		2775	14805	0543	01508	0437
0800	0422 B	3498 B		2777	14810	0586	01844	0423
1000	0376	34943		2779	14823	0671	02627	0412
1200	0365	34940		2780	14852	0755	03581	0418
1500	0356	34945		2781	14899	0884	05377	0429
2000	0332	34942		2783	14973	1104	09361	0438
2500	0297	34948		2787	15044	1323	14427	0420
3000	0258	34935		2789	15113	1532	20375	0401

C-REF-NO 001	YR 1963	DEPTH 3400	WAVES 1 3421	AIR T 04.2	VIS 98
CONS. NO 021	MONTH 4	MXSAMPD 32	WAVES 2 3421	WET B 03.3	STN
LAT 41-100N	DAY 19	NO.DPTH 22	WND-DIR 340	WW-CODE 02	
LUN 47-490W	HR 06.6	W-COLOR	WND-SPD 05	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARO 1019.2	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
066	0000	054 B	33350		2634	14705
066	0010	0515	33345		2637	14696
066	0029	1266	35412	601	2680	15007
066	0073	1376	35747		2683	15055
066	0097	1340	35680	526	2686	15046
066	0145	1230	35430	527	2688	15014
066	0194	1183	35372	491	2693	15005
066	0242	0980	35163	357	2713	14938
066	0291	0850	35032	365	2724	14896
066	0387	0554	34794	479	2747	14793
066	0482	0462	34838	541	2761	14772
066	0584	0497	34996	539	2770	14805
066	0779	0432	34964	592	2774	14810
074	0983	0408	34962	602	2777	14834
074	1183	0385	34951	614	2778	14858
074	1379	0378	34958	621	2780	14888
074	1565	0360	34945	618	2780	14911
074	1765	0354	34961	627	2782	14943
074	1955	0337	34953	624	2783	14967
074	2439	0303	34947	630	2786	15036
074	2935	0261	34932	632	2789	15103
074	3223	0231	34915		2790	15140

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0540 B	33350		2634	14705	0000	00000	1688
0010	0515	33345		2637	14696	0017	00001	1666
0020	0871 I	3434 I		2666	14851	0032	00003	1390
0030	1282 D	3546 G		2680	15013	0046	00007	1264
0050	1475 I	3600 I		2681	15086	0071	00017	1259
0075	1375	35746		2683	15055	0103	00037	1246
0100	1333	35664		2686	15044	0134	00065	1230
0125	1275 B	3553 E		2687	15027	0165	00101	1221
0150	1227 B	3542 B		2688	15014	0195	00144	1218
0175	1207 E	3539 E		2690	15011	0226	00195	1209
0200	1160 B	3535 B		2695	14998	0256	00253	1161
0225	1056 D	3524 C		2706	14964	0284	00314	1062
0250	0957	35139		2715	14931	0310	00376	0975
0300	0819 B	3500 B		2727	14886	0356	00507	0870

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	0532	34789		2749	14786	0433	00778	0651
0500	0465 B	3487 B		2763	14776	0492	01049	0525
0600	0494 B	3500 B		2770	14807	0543	01333	0472
0700	0466 D	3500 F		2774	14812	0589	01643	0448
0800	0428	34963		2775	14812	0634	01991	0442
1000	0406	34961		2777	14836	0723	02813	0435
1200	0384	34952		2779	14860	0811	03811	0434
1500	0366	34949		2780	14903	0944	05662	0439
2000	0334	34952		2784	14974	1166	09663	0433
2500	0298	34946		2786	15044	1384	14727	0423
3000	0254	34928		2789	15112	1594	20695	0401

C-REF-NO 001	YR 1963	DEPTH 3470	WAVES 1 3621	AIR T 04.8	VIS 98
CONS. NO 022	MONTH 4	MXSAMPD 34	WAVES 2 0523	WET B 03.0	STV
LAT 40-457N	DAY 19	NO.DPTH 22	WND-DIR 310	HW-CODE 02	
LON 47-133W	HR 12.1	W-COLOR	WND-SPD 01	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1020.3	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
121	0000	1415 B	35884		2687	15056
121	0010	1412	35823		2681	15058
121	0030	1396	35776	568	2681	15055
121	0075	1327	35602		2682	15038
121	0099	1340	35665	549	2684	15047
121	0149	1275	35518	509	2686	15031
121	0198	1254	35472	512	2687	15032
121	0247	1180	35312	549	2689	15012
121	0295	1218	35479	431	2694	15035
121	0394	1036	35314	341	2715	14986
121	0495	0810	35100	371	2736	14916
121	0594	0662	35048	445	2753	14874
121	0795	0508	35020	542	2770	14845
131	0996	0480	35058	569	2777	14867
131	1195	0408	34972	618	2778	14870
131	1402	0390	34963	627	2779	14897
131	1593	0374	34953	620	2780	14922
131	1791	0349	34928	585	2780	14944
131	1981	0344	34943	664	2782	14975
131	2482	0307	34940	634	2785	15044
131	2985	0264	34924	644	2788	15113
131	3373	0226	34909	575	2790	15164

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1415 B	35884		2686	15058	0000	00000	1204
0010	1412	35823		2681	15058	0012	00001	1245
0020	1405	3579 B		2681	15057	0025	00003	1256
0030	1396	35776		2681	15055	0038	00006	1253
0050	1361 D	3568 G		2681	15046	0063	00016	1258
0075	1327	35602		2682	15038	0095	00037	1257
0100	1339	35663		2684	15046	0126	00065	1243
0125	1311 D	3561 G		2686	15041	0157	00101	1237
0150	1275	35517		2686	15031	0188	00145	1238
0175	1265 B	3550 C		2686	15032	0220	00197	1242
0200	1250	35463		2687	15031	0251	00258	1245
0225	1209 D	3537 F		2688	15020	0282	00326	1242
0250	1182	3532 B		2689	15014	0314	00402	1234
0300	1213 B	3548 B		2695	15035	0375	00575	1189

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1022	35300		2717	14981	0485	00967	1000
0500	0801	35095		2737	14913	0577	01385	0811
0600	0655	35046		2754	14872	0650	01798	0650
0700	0561 B	35023		2764	14851	0711	02203	0553
0800	0507	35021		2771	14845	0764	02611	0496
1000	0479	35057		2777	14868	0861	03501	0457
1200	0407	34971		2778	14870	0953	04540	0449
1500	0382	34959		2779	14910	1090	06449	0453
2000	0343	34944		2782	14978	1320	10602	0452
2500	0306	34940		2785	15047	1547	15863	0438
3000	0262	34925		2788	15115	1765	22046	0416

C-REF-NO 001	YR 1963	DEPTH 3587	WAVES 1 1621	AIR T 09.5	VIS 98
CUNS. NO 023	MONTH 4	MXSAMPD 35	WAVES 2 0323	WET B 06.5	STV
LAT 40-247N	DAY 19	NO.DPTH 22	WND-DIR 180	WW-CODE 02	
LON 46-465W	HR 17.5	W-COLOR	WND-SPD 07	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1017.2	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
175	0000	1645 B	36331		2669	15134
175	0010	1648	36305		2666	15137
175	0030	1640	36295	532	2667	15138
175	0074	1630	36272		2667	15142
175	0098	1624	36261	529	2668	15144
175	0148	1554	36143	540	2675	15129
175	0197	1516	36033	526	2675	15124
175	0247	1356	35660	549	2681	15076
175	0291	1436	35931	528	2685	15113
175	0394	1160	35468	369	2705	15031
175	0493	0922	35184	358	2725	14959
175	0594	0729	35032	421	2742	14900
175	0791	0534	34999	524	2766	14855
187	0987	0465	35004	568	2774	14859
187	1187		34974	603		
187	1386	0392	34951	619	2778	14895
187	1588	0374	34940	625	2779	14921
187	1785	0360	34937	626	2780	14948
187	1984	0348	34941	633	2781	14977
187	2483	0316	34941	622	2784	15048
187	2980	0270	34925	629	2787	15114
187	3479	0226	34908	634	2790	15182

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1645 B	36331		2668	15135	0000	00000	1367
0010	1648	36305		2666	15137	0014	00001	1396
0020	1645	36297		2666	15138	0028	00003	1399
0030	1640	36295		2667	15138	0042	00006	1392
0050	1635	36284		2667	15140	0070	00018	1395
0075	1630	36272		2667	15142	0105	00041	1402
0100	1622	36257		2668	15143	0141	00072	1402
0125	1589 B	3621 B		2672	15137	0176	00113	1376
0150	1553	36141		2675	15129	0210	00161	1353
0175	1538 C	3610 D		2675	15128	0244	00218	1360
0200	1504 B	3600 C		2675	15120	0279	00284	1363
0225	1418 H	3580 I		2678	15094	0313	00359	1340
0250	1360 B	3567 C		2681	15078	0346	00440	1319
0300	1424 E	3592 H		2686	15110	0412	00626	1287

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1145	35447		2706	15027	0533	01056	1110
0500	0907	35170		2726	14954	0635	01526	0923
0600	0720	35028		2743	14898	0720	02002	0757
0700	0601 C	3499 D		2756	14867	0790	02468	0632
0800	0529	34999		2766	14854	0850	02923	0542
1000	0462	35002		2774	14860	0953	03870	0475
1200	0417	34972		2777	14874	1048	04942	0461
1500	0381	34944		2778	14909	1188	06897	0462
2000	0347	34941		2781	14980	1422	11125	0460
2500	0315	34941		2785	15051	1654	16505	0450
3000	0271	34927		2787	15119	1878	22857	0427
3500	0224	34907		2790	15185	2088	29902	0394

C-REF-NO 001	YR 1963	DEPTH 3800	WAVES 1 1321	AIR T 12.5	VIS 97
CONS. NO 024	MONTH 4	MXSAMPD 33	WAVES 2 1844	WET B 09.0	STN
LAT 40-050N	DAY 19	NU.DPTH 22	WND-DIR 170	WW-CODE 61	
LON 46-261W	HR 22.8	W-COLOR	WND-SPD 07	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1016.8	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
228	0000	162 B	36254		2668	15127
228	0010	1621	36235		2667	15128
228	0029	1621	36231	534	2666	15131
228	0072	1614	36219		2667	15136
228	0096	1572	36126	533	2669	15126
228	0145	1490	35948	502	2674	15106
228	0193	1444	35854	508	2677	15098
228	0242	1386	35725	458	2679	15086
228	0290	1319	35625	451	2686	15070
228	0390	1208	35547	395	2702	15048
228	0487	0982	35246	330	2719	14980
228	0585	0756	35042	390	2739	14909
228	0781	0564	35037	515	2765	14866
236	0946	0473	34999	563	2773	14855
236	1127	0432	34986	592	2776	14868
236	1309	0405	34972	611	2778	14887
236	1488	0390	34961	615	2779	14911
236	1670	0376	34957	609	2780	14936
236	1859	0355	34941	624	2781	14959
236	2322	0326	34940	622	2783	15025
236	2800	0290	34930	629	2786	15092
236	3298	0248 B	34911	629	2788	15160

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1620 B	36254		2668	15127	0000	00000	1368
0010	1621	36235		2667	15128	0014	00001	1387
0020	1621	36230		2666	15130	0028	00003	1394
0030	1621	36232		2666	15132	0042	00006	1397
0050	1624 B	3624 C		2666	15136	0070	00018	1404
0075	1609	36209		2667	15135	0106	00041	1402
0100	1565	36110		2670	15124	0141	00072	1384
0125	1521	36015		2672	15114	0175	00112	1367
0150	1485	35937		2675	15105	0210	00161	1354
0175	1460	3589 B		2676	15101	0244	00217	1347
0200	1436	35836		2677	15097	0277	00283	1342
0225	1407	35770		2678	15091	0311	00356	1338
0250	1375	35706		2680	15083	0345	00438	1326
0300	1310 B	3562 B		2687	15069	0410	00623	1273

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1187	3552 B		2703	15043	0532	01057	1137
0500	0949	35212		2722	14970	0638	01543	0962
0600	0734 B	3503 B		2742	14903	0726	02033	0773
0700	0617 E	3501 H		2756	14873	0797	02507	0639
0800	0551	35033		2766	14863	0857	02967	0545
1000	0457	34994		2774	14858	0960	03916	0475
1200	0420	34980		2777	14875	1055	04986	0458
1500	0389	34961		2779	14913	1194	06931	0461
2000	0345	34938		2781	14979	1428	11146	0459
2500	0313	34937		2784	15051	1660	16524	0451
3000	0274	34924		2787	15120	1885	22934	0434

C-REF-NO 001	YR 1963	DEPTH 4063	WAVES 1 1432	AIR T 12.1	VIS 97
CUNS. NO 025	MONTH 4	MXSAMPD 32	WAVES 2 1855	WET B 11.9	STN
LAT 40-152N	DAY 20	NO.DPTH 23	WND-DIR 140	WW-CODE 61	
LON 46-078W	HR 02.9	W-COLOR	WND-SPD 13	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1012.8	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
029	0000	159 B	36222		2673	15117
029	0010	1586	36206		2672	15117
029	0029	1587	36207	552	2672	15121
029	0073	1587	36199		2672	15128
029	0097	1585	36195	551	2672	15131
029	0146	1567	36147	540	2672	15133
029	0195	1534	36102	534	2676	15130
029	0244	1435	35861	530	2679	15104
029	0292	1366	35692	554	2681	15087
029	0388	1274	35555	422	2689	15071
029	0487	1095	35376	346	2710	15023
029	0586	0830	35112	377	2734	14938
029	0786	0523	34913	467	2760	14848
040	0986	0481	34995	550	2771	14865
072	1140	0442	34981	560	2775	14875
040	1191	0435	34978	584	2775	14880
072	1259	0412	34952	596	2776	14882
072	1403	0404	34955	593	2777	14902
072	1564	0388	34949	617	2778	14923
072	2014	0348	34919	613	2780	14982
072	2383	0328	34927	609	2782	15036
072	2806	0291	34919	611	2785	15093
072	3207	0261	34911	621	2787	15150

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1590 B	36222		2673	15117	0000	00000	1325
0010	1586	36206		2672	15117	0013	00001	1331
0020	1586	36204		2672	15119	0027	00003	1336
0030	1587	36207		2672	15121	0040	00006	1340
0050	1587	36204		2672	15124	0067	00017	1349
0075	1587	36199		2672	15128	0101	00039	1360
0100	1584	36193		2672	15131	0136	00070	1367
0125	1577	36171		2672	15133	0170	00110	1374
0150	1566	36147		2672	15133	0205	00159	1376
0175	1552	3613 C		2674	15133	0240	00217	1365
0200	1525	3608 B		2677	15128	0274	00282	1351
0225	1476 B	3596 D		2678	15115	0308	00356	1340
0250	1425	35836		2680	15101	0341	00439	1334

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1359	3568 B		2681	15086	0408	00628	1329
0400	1257	35537		2691	15067	0539	01096	1257
0500	1061 B	3534 B		2713	15012	0656	01631	1060
0600	0799	35086		2736	14929	0751	02166	0833
0700	0620	3495 B		2751	14874	0828	02675	0684
0800	0516 B	3492 B		2761	14848	0892	03168	0586
1000	0477	34995		2772	14866	1002	04177	0500
1200	0432	34975		2775	14881	1101	05298	0478
1500	0395	34952		2778	14915	1246	07312	0474
2000	0349	34920		2780	14980	1488	11683	0478
2500	0318	34926		2783	15053	1729	17264	0467
3000	0279	34918		2786	15122	1962	23867	0445

C-REF-NO 001 YR 1963 DEPTH 4450 WAVES 1 2421 AIR T 16.5 VIS 98
 CONS. NO 026 MONTH 4 MXSAMPD 40 WAVES 2 1845 WET B 15.7 STN
 LAT 40-270N DAY 20 NO.DPTH 24 WND-DIR 180 WW-CODE 01
 LON 45-473W HR 10.5 W-COLOR WND-SPD 08 CLD-TPE 6
 MARSD SQ 149 W-TRNSP BARO 1000.0 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
105	0000	1584 B	36218		2675	15114
105	0010	1584	36217		2674	15117
105	0028	1584	36219	528	2674	15120
105	0071	1583	36230		2675	15127
105	0095	1582	36236	533	2676	15130
105	0142	1584	36234	520	2675	15139
105	0188	1561	36175	523	2676	15138
105	0236	1544	36141	528	2677	15140
105	0282	1466	35941	480	2679	15121
105	0375	1382	35802	370	2686	15107
105	0473	1198	35544	341	2703	15059
105	0564	0956	35243	457	2724	14984
105	0761	0665	35078	497	2755	14903
122	0865	0576	35072		2766	14885
122	1056	0514	35072	543	2774	14891
122	1247	0440	34999	577	2776	14892
122	1410	0418	34992	578	2778	14910
122	1594	0396	34983	588	2780	14932
122	1775	0382	34980	599	2781	14956
122	2235	0354	34973	583	2783	15023
122	2709	0321	34959	594	2785	15090
122	3180	0287				
122	3641	0257	34939	611	2790	15224
122	4000	232	34924	606	2791	15276

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1584 B	36218		2674	15115	0000	00000	1315
0010	1584	36217		2674	15117	0013	00001	1319
0020	1584	36218		2674	15118	0027	00003	1322
0030	1584	36219		2674	15120	0040	00006	1324
0050	1584	36224		2674	15123	0067	00017	1326
0075	1583	36231		2675	15127	0100	00039	1327
0100	1583	36238		2676	15131	0133	00069	1330
0125	1584	36239		2675	15136	0167	00108	1341
0150	1581	36225		2675	15139	0201	00155	1351
0175	1568	36193		2675	15139	0235	00212	1355
0200	1559	3617 B		2676	15140	0269	00278	1358
0225	1550	3616 B		2677	15141	0304	00353	1360

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1522 B	3608 C		2678	15135	0338	00437	1358
0300	1449 C	3590 D		2680	15118	0406	00629	1349
0400	1343	35745		2690	15098	0539	01104	1276
0500	1126 C	3545 B		2710	15037	0658	01654	1098
0600	0885 B	3518 D		2730	14962	0759	02219	0900
0700	0730 C	3508 F		2746	14918	0843	02771	0747
0800	0627	35072		2760	14894	0912	03301	0621
1000	0526 C	35075		2773	14887	1026	04346	0506
1200	0456	3502 B		2776	14891	1126	05474	0479
1500	0407	34987		2779	14921	1269	07466	0464
2000	0368	34977		2782	14989	1505	11717	0463
2500	0336	34965		2785	15061	1740	17199	0464
3000	0300	34954		2787	15131	1974	23835	0452
3500	0266	34943		2789	15204	2201	31465	0436
4000	0232	34924		2791	15277	2420	39962	0418

C-REF-NO 001	YR 1963	DEPTH 4490	WAVES 1 3222	AIR T 15.6	VIS 97
CUNS. NO 027	MONTH 4	MXSAMPD 39	WAVES 2 3445	WET B 13.9	STN
LAT 40-404N	DAY 20	NO.DPTH 23	WND-DIR 320	WW-CODE 03	
LUN 45-228W	HR 17.8	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1004.3	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
178	0000	1585 B	36214		2674	15114
178	0007	1580	36182		2672	15115
178	0018	1580	36181	547	2672	15116
178	0045	1568	36175		2674	15117
178	0061	1557	36174	541	2677	15116
178	0091	1577	36179	538	2672	15127
178	0122	1548	36158	552	2677	15123
178	0154	1547	36139	538	2676	15128
178	0184	1544	36135	533	2677	15132
178	0268	1537	36113	523	2676	15143
178	0368	1474	35993	497	2681	15138
192	0586		35385	332		
178	0673	0874	35146	354	2729	14970
192	0978	0556	35036	498	2766	14895
192	1177	0474	35022	553	2774	14895
192	1369	0428	34994	569	2777	14907
192	1552	0402	34981	599	2779	14927
192	1752	0382	34970	603	2780	14952
192	1946	0373	34970	604	2781	14981
192	2448	0342	34966	605	2784	15054
192	2949	0306	34960	594	2787	15125
192	3448	0272				
192	3940	0236	34926	607	2790	15267

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1585 B	36214		2673	15115	0000	00000	1320
0010	1580	36179		2672	15115	0013	00001	1338
0020	1580	36181		2672	15117	0027	00003	1339
0030	1576	36178		2673	15117	0040	00006	1337
0050	1564	36174		2675	15117	0067	00017	1319
0075	1566 B	36177		2675	15121	0100	00039	1330
0100	1570 B	36174		2674	15127	0134	00069	1348
0125	1547	36156		2677	15123	0168	00108	1321
0150	1546	36141		2676	15127	0201	00155	1338
0175	1545	36136		2676	15131	0235	00212	1346
0200	1544	36134		2676	15135	0269	00277	1354
0225	1543	36130		2676	15138	0303	00352	1362
*0250	1540	36121		2676	15141	0338	00436	1370

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1524	36086		2677	15144	0407	00631	1376
0400	1419 G	3592 D		2687	15125	0542	01116	1305
0500	1235 I	3565 G		2705	15077	0666	01686	1155
0600	1033 I	35343		2718	15019	0777	02308	1031
0700	0835	3511 E		2733	14959	0874	02953	0890
0800	0710	3503 I		2744	14927	0958	03600	0777
1000	0544	35034		2767	14894	1094	04831	0561
1200	0467	35019		2775	14896	1200	06032	0492
1500	0408	34984		2779	14921	1346	08060	0469
2000	0370	34970		2781	14990	1585	12371	0471
2500	0338	34966		2784	15062	1824	17919	0467
3000	0303	34957		2787	15133	2059	24590	0453
3500	0268	34943		2789	15205	2287	32248	0438
4000		34923						

C-REF-NO 001 YR 1963 DEPTH 4616 WAVES 1 2821 AIR T 14.5 VIS 98
 CONS. NO 028 MONTH 4 MXSAMPD 40 WAVES 2 3555 WET B 13.2 STN
 LAT 40-575N DAY 20 NO.DPTH 23 WND-DIR 280 WW-CODE 01
 LON 45-028W HR 23.3 W-COLOR WND-SPD 04 CLD-TPE 6
 MARSD SQ 149 W-TRNSP BARO 1009.6 CLD-AMT 3 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
233	0000	1528 B	36122		2681	15094
233	0010	1529	36091		2677	15098
233	0030	1524	36083	544	2677	15100
233	0074	1510	36064		2679	15102
233	0099	1501	36056	544	2680	15103
233	0148	1394	35766	492	2681	15074
233	0198	1371	35728	492	2683	15074
233	0248	1404	35843	457	2685	15094
233	0297	1406	35879	478	2687	15103
233	0397	1334	35765	437	2693	15095
233	0497	1191	35540	373	2704	15060
233	0595	1040	35356	359	2718	15021
233	0785	0746	35093	416	2745	14939
233	0985	0573	35066	508	2766	14903
233	1184	0490	35061	563	2776	14903
#249	1395	0444	35034	584	2779	14919
#249	1590	0404	34994	621	2780	14934
#249	1784	0385	34985	614	2781	14959
#249	1977	0370	34976	617	2782	14985
#249	2471	0340	34972	616	2785	15057
#249	2970	0304	34965	616	2787	15128
#249	3460	0266	34951	619	2790	15196
#249	3970	0236	34937	625	2791	15273

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1528 B	36122		2679	15097	0000	00000	1265
0010	1529	36091		2677	15098	0013	00001	1293
0020	1527	36083		2676	15099	0026	00003	1298
0030	1524	36083		2677	15100	0039	00006	1294
0050	1518	36074		2678	15101	0065	00017	1294
0075	1510	36065		2679	15102	0098	00038	1292
0100	1499	36051		2680	15103	0130	00067	1286
0125	1446 D	3591 I		2681	15089	0163	00104	1287
0150	1392	35761		2681	15073	0195	00150	1291
0175	1373	3572 B		2682	15070	0228	00204	1290
0200	1372	35732		2683	15075	0260	00267	1287
0225	1387 B	3579 C		2684	15084	0292	00338	1286

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1405	35846		2685	15095	0325	00417	1284
0300	1405	35878		2687	15104	0389	00599	1276
0400	1330	35759		2694	15094	0516	01055	1240
0500	1186	35534		2705	15059	0637	01610	1150
0600	1031	35347		2719	15018	0747	02228	1026
0700	0870 C	3519 B		2733	14973	0844	02872	0888
0800	0729	35086		2747	14935	0927	03511	0760
1000	0565	35066		2767	14903	1061	04734	0566
1200	0486	35060		2776	14904	1168	05934	0487
1500	0421	35011		2779	14927	1313	07945	0466
2000	0369	34976		2782	14989	1549	12212	0465
2500	0338	34972		2785	15062	1785	17696	0462
3000	0302	34964		2788	15132	2017	24284	0447
3500	0265	34951		2790	15204	2241	31807	0429
4000	0234	34936		2791	15278	2457	40185	0413

C-REF-NO 001	YR 1963	DEPTH 3800	WAVES 1 2232	AIR T 15.5	VIS 97
CONS. NO 029	MONTH 4	MXSAMPD 08	WAVES 2 2043	WET B 14.5	STN
LAT 40-050N	DAY 21	NO.DPTH 13	WND-DIR 220	WW-CODE 03	
LON 46-261W	HR 11.7	W-COLOR	WND-SPD 14	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1005.4	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
117	0000	1635 B	36304		2670	15130
117	0010	1638	36277		2666	15134
117	0028	1638	36278		2666	15137
117	0070	1632	36271		2667	15142
117	0094	1596	36022		2656	15132
117	0140	1513	36020		2675	15114
117	0188	1477	35959		2678	15109
117	0236	1379	35740		2682	15083
117	0283	1312	35600		2685	15067
117	0382	1266	35632		2697	15068
117	0481	1094	35417		2713	15022
117	0575	0870	35169		2732	14953
117	0770	0551	35021		2765	14858

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1635 B	36304		2669	15132	0000	00000	1365
0010	1638	36277		2666	15134	0014	00001	1394
0020	1639	36274		2665	15136	0028	00003	1401
0030	1639	3628 B		2666	15138	0042	00007	1397
0050	1640 B	3631 G		2668	15141	0070	00018	1388
0075	1626	3622 C		2664	15140	0106	00041	1430
0100	1584	3601 D		2657	15129	0143	00074	1503
0125	1538	3599 H		2667	15119	0179	00117	1423
0150	1506 B	36016		2676	15113	0214	00166	1342
0175	1487 B	35986		2678	15111	0248	00222	1332
0200	1454 B	3591 C		2679	15103	0281	00286	1326
0225	1403 B	3579 B		2681	15089	0315	00359	1311
0250	1356	35689		2683	15077	0348	00439	1300
0300	1304 C	3560 F		2687	15067	0413	00623	1277
0400	1242	3560 B		2699	15062	0536	01065	1178
0500	1049 B	3536 B		2717	15008	0648	01575	1023
0600	0851 I	3517 I		2735	14950	0742	02106	0851
0700	0672 E	3506 E		2753	14896	0820	02619	0679

C-REF-NO 001	YR 1963	DEPTH 4050	WAVES 1 2432	AIR T 16.9	VIS 95
CONS. NO 030	MONTH 4	MXSAMPD 33	WAVES 2 2333	WET B 15.9	STN
LAT 39-512N	DAY 21	NO.DPTH 23	WND-DIR 240	WW-CODE 64	
LON 46-455W	HR 16.0	W-COLOR	WND-SPD 15	CLD-TPE 7	
MARSD SQ 113		W-TRNSP	BARO 1003.4	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
160	0000	157 B	36171		2673	15110
160	0009	1570	36162		2673	15112
160	0028	1571	36159	548	2672	15115
160	0071	1558	36139		2674	15118
160	0095	1452	35906	553	2679	15085
160	0143	1419	35839	547	2681	15082
160	0191	1334	35642	549	2684	15059
160	0239	1246	35432	552	2685	15035
160	0286	1190	35355	504	2690	15023
160	0384	1062	35353	331	2714	14994
160	0478	0873	35154	340	2730	14937
160	0575	0679	35010	424	2748	14877
160	0775	0550	35081	530	2770	14859
182	0816	0562	35136	515	2773	14872
182	0990	0474	35071	559	2778	14864
182	1132	0423	35005	585	2779	14866
182	1262	0399	34996	590	2781	14877
182	1418	0392	34995	603	2781	14901
182	1580	0376	34986	612	2782	14921
182	1993	0352	34985	606	2784	14981
182	2401	0323	34978	605	2787	15038
182	2816	0287	34960	601	2789	15094
182	3312	0245	34938	614	2791	15161

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1570 B	36171		2673	15110	0000	00000	1319
0010	1570	36162		2673	15112	0013	00001	1329
0020	1571	36159		2672	15114	0027	00003	1336
0030	1573	3616 B		2672	15116	0040	00006	1341
0050	1580 D	3618 G		2672	15122	0067	00017	1349
0075	1541 B	3610 B		2675	15113	0101	00039	1331
0100	1444 B	3589 D		2680	15083	0134	00069	1289
0125	1420 F	3584 I		2681	15079	0167	00106	1284
0150	1408	35815		2682	15079	0199	00152	1285
0175	1365	3572 B		2683	15068	0231	00206	1278
0200	1316	3560 B		2684	15054	0263	00268	1274
0225	1270	3549 B		2685	15042	0295	00338	1272
0250	1232	35406		2686	15032	0327	00416	1264

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
0300	1174	3536 C		2693	15020	0390	00591	1208
0400	1032	3532 B		2717	14985	0501	00986	0999
0500	0825 B	35113		2734	14923	0594	01410	0835
0600	0644	34996		2751	14867	0670	01837	0672
0700	0559 B	3501 C		2763	14850	0732	02251	0563
0800	0557	35115		2772	14867	0786	02662	0493
1000	0470	35066		2778	14864	0880	03530	0439
1200	0408	34997		2780	14871	0968	04528	0431
1500	0384	34991		2782	14911	1100	06356	0432
2000	0352	34985		2785	14982	1320	10332	0434
2500	0315	34974		2787	15052	1539	15420	0426
3000	0273	34954		2789	15120	1752	21482	0410

C-REF-NO 001 YR 1963 DEPTH 4300 WAVES 1 3221 AIR T 10.3 VIS 94
 CONS. NO 031 MONTH 4 MXSAMPD 42 WAVES 2 2333 WET B 10.2 STN
 LAT 39-280N DAY 21 NO.DPTH 24 WND-DIR 250 WW-CODE 46
 LON 47-096W HR 22.5 W-COLOR WND-SPD 07 CLD-TPE 6
 MARSD SQ 113 W-TRNSP BARO 1004.1 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
225	0000	0856 B	33909		2636	14834
225	0010	1177	35062		2670	14969
225	0027	1376	35667	578	2677	15047
225	0068	1395	35795		2683	15061
225	0090	1392	35790	558	2683	15064
225	0136	1365	35733	552	2684	15062
225	0182	1339	35670	553	2685	15060
225	0227	1268	35523	507	2688	15042
225	0271	1198	35393	511	2692	15023
225	0363	1122	35411	340	2707	15012
225	0452	0866	35144	350	2730	14930
225	0541	0718	35037	416	2744	14887
225	0732	0517	34999	533	2768	14838
238	0928	0455	35000	575	2775	14845
238	1129	0420	34981	599	2777	14864
238	1328	0400	34977	598	2779	14889
238	1516	0384	34974	619	2780	14913
238	1715	0369	34967	621	2781	14941
238	1909	0357	34959	626	2782	14968
238	2400	0324	34952	626	2785	15038
238	2902	0282	34932	640	2787	15106
238	3392	0245	34915	612	2789	15175
238	3862	0245	34898	614	2787	15257
238	4180	0221	34889	613	2789	15303

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0856 B	33909		2635	14836	0000	00000	1680
0010	1177	35062		2670	14969	0015	00001	1354
0020	1327 G	3554 I		2677	15028	0029	00003	1287
0030	1389 D	3571 F		2678	15052	0042	00006	1287
0050	1429 I	3587 I		2681	15070	0067	00017	1260
0075	1395	35797		2683	15062	0099	00037	1249
0100	1387	35781		2683	15064	0130	00065	1253
0125	1373	35750		2684	15063	0162	00102	1253
0150	1360	35719		2684	15062	0194	00146	1257
0175	1344	35683		2685	15061	0225	00199	1260
0200	1313	3562 B		2686	15054	0257	00260	1255
0225	1272	35530		2688	15043	0288	00329	1243

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1230	35449		2690	15032	0320	00405	1230
0300	1179 E	3539 H		2695	15022	0381	00577	1188
0400	1020 F	3531 F		2718	14981	0491	00967	0990
0500	0777 B	3507 B		2738	14904	0580	01378	0792
0600	0640	3501 C		2753	14866	0654	01789	0657
0700	0540	3500 B		2764	14842	0714	02193	0547
0800	0486 B	34998		2771	14836	0767	02594	0486
1000	0440	34993		2776	14851	0862	03473	0454
1200	0412	34979		2778	14872	0953	04509	0449
1500	0385	34974		2780	14911	1090	06403	0446
2000	0351	34957		2782	14982	1318	10534	0454
2500	0316	34948		2785	15052	1547	15858	0447
3000	0273	34929		2787	15120	1771	22200	0429
3500	0245	34911		2788	15195	1989	29547	0425
4000	0229 B	34894		2788	15275	2210	38112	0434

C-REF-NO 001 YR 1963 DEPTH 5167 WAVES 1 2421 AIR T 16.5 VIS 97
 CONS. NO 032 MONTH 4 MXSAMPD 38 WAVES 2 2433 WET B 14.0 STN
 LAT 39-048N DAY 22 NO.DPTH 23 WND-DIR 230 WW-CODE 03
 LUN 47-320W HR 13.6 W-COLOR WND-SPD 11 CLD-TPE 8
 MARSD SQ 113 W-TRNSP BARO 1006.5 CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
136	0000	1775 B	36511		2652	15174
136	0009	1774	36510		2651	15177
136	0026	1774	36504	522	2651	15180
136	0065	1771	36509		2652	15185
136	0087	1771	36499	526	2651	15189
136	0130	1760	36488	542	2653	15192
136	0174	1760	36484	532	2652	15200
136	0219	1760	36481	519	2652	15207
136	0263	1761	36485	529	2652	15215
136	0357	1760	36477	527	2652	15230
136	0451	1702	36334	476	2655	15226
136	0548	1555	36063	449	2669	15194
136	0745	1120	35458	391	2711	15075
148	0961	0672	35054	528	2752	14939
148	1152	0515	35027	575	2770	14907
148	1347	0447	34992	608	2775	14911
148	1525	0413	34974	622	2777	14927
148	1721	0374	34936	624	2778	14943
148	1908	0372	34947	619	2779	14974
148	2366	0355	34971	601	2783	15045
148	2829	0318	34955	605	2785	15109
148	3306	0279	34938	608	2788	15175
148	3776	0248	34917	619	2789	15244

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1775 B	36511		2651	15176	0000	00000	1533
0010	1774	36510		2651	15177	0015	00001	1536
0020	1774	36506		2651	15179	0031	00003	1541
0030	1774	36505		2651	15180	0046	00007	1546
0050	1772	36507		2651	15183	0078	00020	1547
0075	1771	36505		2651	15187	0117	00045	1555
0100	1768	36495		2651	15190	0156	00080	1563
0125	1761	36489		2652	15192	0195	00126	1561
0150	1759	36486		2653	15196	0235	00181	1567
0175	1760	36484		2652	15200	0274	00248	1579
0200	1760	36482		2652	15204	0314	00324	1589
0225	1760	36481		2652	15208	0354	00412	1598
0250	1761	36484		2652	15212	0395	00511	1606

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1764	3649 B		2652	15222	0476	00741	1626
0400	1742	36427		2652	15231	0642	01337	1655
0500	1636	3621 B		2661	15213	0806	02095	1601
0600	1448 C	3590 C		2679	15167	0960	02958	1440
0700	1226 C	3559 C		2701	15106	1095	03857	1236
0800	0991 D	3532 B		2724	15036	1209	04729	1015
1000	0627 B	3504 C		2757	14927	1380	06279	0677
1200	0492	35018		2772	14906	1502	07643	0526
1500	0417	34977		2777	14925	1656	09775	0486
2000	0370	34954		2780	14989	1902	14215	0483
2500	0345	34968		2784	15064	2146	19878	0475
3000	0304	34949		2786	15133	2385	26662	0461
3500	0267	34929		2788	15204	2617	34456	0446

C-REF-ND 001 YR 1963 DEPTH 5167 WAVES 1 2421 AIR T 14.8 VIS 99
 CONS. NO 033 MONTH 4 MXSAMPD 50 WAVES 2 2433 WET B 12.3 STN
 LAT 38-430N DAY 22 NO.DPTH 27 WND-DIR 240 WW-CODE 01
 LON 47-520W HR 21.7 W-COLOR WND-SPD 06 CLD-TPE 1
 MARSD SQ 113 W-TRNSP BARO 1008.3 CLD-AMT 1 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
217	0000	175 B	36470		2654	15168
217	0010	1747	36458		2654	15169
217	0028	1747	36454	535	2653	15172
217	0073	1742	36461		2655	15178
217	0095	1734	36453	550	2656	15179
217	0143	1732	36445	530	2656	15186
217	0192	1731	36439	529	2656	15194
217	0241	1732	36440	526	2656	15202
217	0290	1733	36441	531	2656	15210
217	0389	1735	36442	530	2655	15227
217	0491	1666	36269	479	2659	15221
217	0590	1502	35976	430	2674	15184
217	0788	1080	35378	348	2712	15067
227	0997	0666	35058	432	2753	14942
227	1200	0543	35084	517	2771	14927
227	1403	0469	35035	559	2776	14931
227	1591	0423	35000	593	2778	14943
227	1794	0397	34988	598	2780	14966
227	1992	0380	34977	610	2781	14992
227	2482	0344	34972	606	2784	15061
227	2986	0305	34956	604	2787	15131
227	3485	0266	34933	604	2788	15200
#250	3910	0240	34916	600	2789	15264
#250	4403	0228	34904	596	2789	15346
#250	4691	0227	34896	585	2789	15396
#250	4900	0228	34896	589	2789	15434
#250	5042	0229	34896	601	2789	15460

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1750 B	36470		2654	15168	0000	00000	1505
0010	1747	36458		2654	15169	0015	00001	1510
0020	1747	36454		2653	15170	0030	00003	1516
0030	1747	36454		2653	15172	0046	00007	1520
0050	1746	36458		2654	15175	0076	00020	1522
0075	1741	36460		2655	15178	0115	00044	1518
0100	1733	36452		2656	15179	0153	00078	1514
0125	1731	36447		2657	15183	0191	00123	1522

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
0150	1732	36444		2656	15187	0230	00177	1533
0175	1731	36441		2656	15191	0268	00242	1543
0200	1731	36439		2656	15195	0307	00317	1552
0225	1732	36439		2656	15199	0347	00402	1562
0250	1732	36440		2656	15203	0386	00499	1571
0300	1735	36445		2656	15213	0466	00724	1591
0400	1732	36431		2655	15228	0628	01309	1627
0500	1654	36245		2660	15219	0791	02064	1613
0600	1482	35943		2676	15178	0948	02943	1480
0700	1274 C	3563 D		2695	15123	1088	03878	1302
0800	1052 B	35351		2715	15059	1210	04811	1105
1000	0663	35057		2754	14942	1394	06474	0713
1200	0543	35084		2771	14928	1522	07904	0548
1500	0443	35015		2777	14936	1680	10092	0493
2000	0379	34977		2781	14994	1927	14538	0479
2500	0343	34972		2784	15063	2168	20140	0469
3000	0304	34955		2787	15133	2404	26850	0457
3500	0265	34932		2788	15203	2634	34567	0441
4000	0237	34914		2789	15279	2858	43271	0433
4500	0227	34901		2789	15363	3085	53264	0448
5000	0229	34896		2789	15453	3323	65012	0475

C-REF-NO 001	YR 1963	DEPTH 5120	WAVES 1 2421	AIR T 17.2	VIS 97
CONS. NO 034	MONTH 4	MXSAMPD 35	WAVES 2 2433	WET B 15.1	STN
LAT 38-200N	DAY 23	NO.DPTH 22	WND-DIR 200	WW-CODE 03	
LON 47-000W	HR 10.2	W-COLOR	WND-SPD 15	CLD-TPE 6	
MARSD SQ 113		W-TRNSP	BARO 1001.3	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
115	0000	1742 B	36463		2656	15165
115	0009	1745	36476		2655	15168
115	0026	1745	36475	517	2655	15171
115	0065	1746	36475		2655	15178
115	0087	1745	36475	517	2655	15181
115	0132	1749	36475	517	2654	15189
115	0178	1749	36474	513	2654	15197
115	0224	1752	36474	516	2654	15205
115	0272	1746	36455	515	2654	15211
115	0372	1736	36437	513	2655	15225
115	0469	1729	36421	507	2655	15238
115	0569	1555	36058	433	2668	15198
115	0768	1084	35375	336	2712	15065
102	0996	0670	35040	423	2751	14944
102	1198	0472	34960	551	2770	14896
102	1398	0445	34996	573	2776	14919
102	1584	0413	34979	599	2778	14937
102	1789	0391	34974	605	2780	14962
102	1981	0378	34974	610	2781	14989
102	2473	0347	34967	611	2784	15060
102	2966	0307	34954	604	2786	15128
102	3463	0267	34931	610	2788	15197

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1742 B	36463		2655	15166	0000	00000	1492
0010	1745	36476		2655	15168	0015	00001	1492
0020	1745	36477		2655	15170	0030	00003	1496
0030	1745	36475		2655	15172	0045	00007	1501
0050	1746	36475		2655	15175	0075	00019	1509
0075	1745	36475		2655	15179	0114	00044	1517
0100	1746	36475		2655	15183	0152	00078	1527
0125	1748	36475		2655	15188	0191	00123	1541
0150	1749	36475		2654	15192	0229	00178	1551
0175	1749	36474		2654	15197	0269	00243	1560
0200	1751	36475		2654	15201	0308	00319	1572
0225	1752	36474		2654	15206	0348	00406	1584
0250	1749	36464		2654	15209	0388	00504	1593
0300	1743	36448		2654	15215	0469	00732	1607

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1742 C	3645 D		2654	15231	0632	01321	1638
0500	1686 B	3633 D		2658	15230	0797	02083	1630
0600	1484 C	3594 B		2675	15179	0955	02969	1487
0700	1249 E	3559 D		2697	15114	1094	03899	1283
0800	1016	3531 B		2718	15045	1214	04812	1072
1000	0664	35037		2752	14942	1396	06466	0731
1200	0471	34960		2770	14897	1525	07904	0540
1500	0427	34989		2777	14929	1682	10074	0491
2000	0377	34974		2781	14992	1928	14504	0477
2500	0345	34966		2784	15064	2170	20145	0476
3000	0306	34952		2786	15134	2410	26944	0462
3500	0264	34929		2788	15203	2641	34708	0442

C-REF-NO 001	YR 1963	DEPTH 5075	WAVES 1 2622	AIR T 16.7	VIS 98
CONS. NO 035	MONTH 4	MXSAMPD 38	WAVES 2 2434	WET B 13.8	STN
LAT 37-440N	DAY 24	NO.DPTH 23	WND-DIR 260	WW-CODE 02	
LON 45-180W	HR 14.8	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1009.6	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
165	0000	1758 B	36519		2658	15169
165	0009	1776	36489		2649	15177
165	0028	1770	36488	514	2650	15179
165	0071	1767	36487		2651	15185
165	0095	1746	36452	515	2653	15182
165	0143	1741	36450	514	2654	15189
165	0192	1731	36441	516	2656	15194
165	0242	1732	36441	512	2656	15202
165	0289	1734	36439	516	2655	15210
165	0393	1724	36403	512	2655	15224
165	0493	1564	36085	467	2668	15188
165	0592	1389	35784	404	2683	15145
165	0792	0951	35214	343	2722	15019
148	1022	0568	34998	482	2761	14907
148	1206	0481	35004	553	2772	14902
148	1392	0435	34991	583	2776	14914
148	1560	0409	34975	600	2778	14931
148	1746	0391	34960	609	2779	14955
148	1923	0378	34959	616	2780	14979
148	2376	0352	34962	616	2783	15046
148	2835	0318	34954	604	2785	15110
148	3299	0280	34935	595	2787	15174
148	3791	0247	34906	601	2788	15246

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1758 B	36519		2656	15171	0000	00000	1488
0010	1776	36488		2649	15178	0015	00001	1557
0020	1776 B	36483		2648	15179	0031	00003	1563
0030	1770	36489		2650	15179	0047	00007	1549
0050	1770 B	36492		2651	15182	0078	00020	1554
0075	1764	36481		2651	15184	0117	00045	1554
0100	1744	36450		2654	15183	0156	00080	1541
0125	1740	3645 B		2654	15185	0195	00125	1543
0150	1739	36449		2655	15189	0234	00180	1548
0175	1734	36444		2656	15192	0273	00245	1547
0200	1731	36441		2656	15195	0312	00320	1550
0225	1731	36441		2656	15199	0351	00406	1559
0250	1732	36441		2656	15204	0391	00502	1571

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1737	3644 B		2655	15213	0470	00728	1597
0400	1715	36385		2656	15223	0633	01312	1622
0500	1552	36063		2669	15186	0791	02042	1516
0600	1372	35757		2685	15140	0937	02865	1381
0700	1153 D	3545 D		2705	15079	1068	03730	1197
0800	0934	35200		2724	15014	1179	04584	1007
1000	0595 B	35003		2758	14914	1347	06105	0655
1200	0482	35003		2772	14902	1466	07443	0523
1500	0417	34981		2777	14925	1620	09562	0483
2000	0373	34960		2780	14991	1865	13991	0483
2500	0343	34961		2783	15064	2110	19673	0478
3000	0304	34948		2786	15133	2350	26487	0463
3500	0267	34925		2788	15204	2583	34335	0451

C-REF-NO 001	YR 1963	DEPTH 5100	WAVES 1 2122	AIR T 17.0	VIS 96
CONS. NO 036	MONTH 4	MXSAMPD 33	WAVES 2 2245	WET B 15.5	STN
LAT 37-151N	DAY 24	NO.DPTH 22	WND-DIR 210	WW-CODE 60	
LON 44-418W	HR 22.2	W-COLOR	WND-SPD 10	CLD-TPE 7	
MARSD SQ 113		W-TRNŞP	BARO 1008.6	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
222	0000	177 B	36500		2651	15174
222	0010	1768	36484		2650	15175
222	0028	1769	36483	545	2650	15178
222	0072	1762	36483		2652	15183
222	0096	1762	36481	524	2652	15187
222	0145	1764	36482	518	2651	15196
222	0194	1760	36474	517	2652	15203
222	0242	1761	36467	510	2651	15211
222	0291	1760	36471	505	2651	15219
222	0388	1757	36466	500	2652	15234
222	0486	1661	36249	433	2658	15219
222	0584	1511	35980	407	2672	15185
222	0782	1160	35487	351	2706	15096
235	1022	0620	34999	443	2755	14928
235	1204	0498	35024	537	2772	14909
235	1388	0448	34996	565	2775	14919
235	1572	0417	34980	593	2777	14937
235	1754	0400	34979	598	2779	14960
235	1939	0382	34972	602	2780	14984
235	2401	0350	34968	602	2783	15049
235	2872	0313	34957	594	2786	15114
235	3251	0272	34941	594	2789	15162

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1770 B	36500		2651	15174	0000	00000	1530
0010	1768	36484		2650	15175	0015	00001	1540
0020	1768	36481		2650	15177	0031	00003	1547
0030	1769	36483		2650	15179	0047	00007	1550
0050	1766	36483		2651	15181	0078	00020	1550
0075	1762	36483		2652	15184	0117	00045	1550
0100	1762	36481		2652	15188	0156	00080	1560
0125	1763	36482		2651	15193	0195	00126	1571
0150	1764	36481		2651	15197	0235	00182	1581
0175	1762	36478		2652	15200	0275	00248	1587
0200	1760	36473		2652	15204	0315	00326	1596
0225	1760	36469		2651	15208	0355	00414	1608
0250	1761	36467		2651	15212	0396	00513	1619
0300	1762	36475		2651	15221	0478	00745	1632

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1749	36447		2652	15233	0644	01342	1657
0500	1642	36212		2660	15215	0809	02103	1610
0600	1485	35937		2674	15179	0965	02984	1491
0700	1314	35682		2691	15137	1109	03938	1345
0800	1114 C	3544 B		2711	15082	1235	04908	1156
1000	0663 D	3503 B		2751	14941	1426	06635	0735
1200	0499	35022		2772	14909	1555	08067	0532
1500	0427	34985		2777	14929	1711	10230	0494
2000	0377	34971		2781	14993	1958	14686	0480
2500	0343	34966		2784	15063	2201	20324	0474
3000	0299	34952		2787	15131	2437	27021	0451

C-REF-NO 001	YR 1963	DEPTH 5150	WAVES 1 2133	AIR T 18.5	VIS 94
CONS. NO 037	MONTH 4	MXSAMPD 36	WAVES 2 2145	WET B 17.4	STN
LAT 37-413N	DAY 25	NO.DPTH 23	WND-DIR 210	WW-CODE 25	
LON 44-258W	HR 05.0	W-COLOR	WND-SPD 18	CLD-TPE X	
MARSD SQ 113		W-TRNSP	BARO 1004.2	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
050	0000	176 B	36475		2652	15171
050	0010	1752	36467		2653	15170
050	0028	1754	36467	531	2653	15174
050	0070	1752	36472		2653	15180
050	0094	1748	36471	529	2654	15183
050	0140	1751	36472	531	2654	15191
050	0186	1752	36465	530	2653	15199
050	0232	1752	36463	529	2653	15207
050	0278	1754	36464	527	2652	15215
050	0376	1741	36434	519	2653	15227
050	0467	1674	36281	478	2658	15220
050	0564	1534	36034	432	2671	15190
050	0754	1137	35459	351	2708	15083
061	0909	0762	35087	389	2742	14966
061	1112	0515	34999	526	2768	14900
061	1290	0454	34991	573	2774	14905
061	1479	0423	34985	589	2777	14924
061	1664	0392	34960	611	2778	14941
061	1835	0379	34960	623	2780	14965
061	2274	0355	34965	615	2783	15030
061	2750	0322	34956	608	2785	15097
061	3186	0284	34945	604	2788	15156
061	3612	0250	34921	607	2789	15216

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1760 B	36475		2652	15171	0000	00000	1525
0010	1752	36467		2653	15170	0015	00001	1515
0020	1752	36466		2653	15172	0031	00003	1519
0030	1754	36467		2653	15174	0046	00007	1527
0050	1754	36470		2653	15177	0077	00020	1532
0075	1751	36472		2654	15181	0115	00044	1532
0100	1748	36471		2654	15184	0154	00079	1534
0125	1749	36472		2654	15188	0193	00124	1545
0150	1751	36471		2654	15193	0232	00179	1560
0175	1752	36467		2653	15197	0271	00245	1572
0200	1752	36464		2653	15201	0311	00322	1583
0225	1752	36463		2653	15205	0351	00409	1592
0250	1753	36464		2653	15210	0391	00507	1603

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1755	36465		2652	15219	0473	00737	1623
0400	1729	36403		2654	15227	0637	01329	1641
0500	1633	36204		2661	15212	0800	02083	1595
0600	1468 B	3593 B		2677	15174	0955	02952	1462
0700	1262 B	3562 C		2697	15119	1093	03874	1283
0800	1020 D	3533 B		2719	15047	1212	04782	1062
1000	0622 B	3501 E		2756	14925	1389	06380	0686
1200	0474 C	34991		2772	14898	1511	07747	0521
1500	0419	34982		2777	14926	1664	09867	0485
2000	0370	34962		2781	14989	1908	14265	0476
2500	0340	34962		2784	15062	2150	19874	0473
3000	0300	34951		2787	15131	2386	26594	0455
3500	0260	34928		2789	15201	2614	34248	0436

C-REF-NO 001	YR 1963	DEPTH 5100	WAVES 1 2033	AIR T 18.4	VIS 95
CONS. NO 038	MONTH 4	MXSAMPD 39	WAVES 2 2045	WET B 17.8	STN
LAT 38-065N	DAY 25	NO.DPTH 22	WND-DIR 200	WW-CODE 61	
LON 44-075W	HR 11.8	W-COLOR	WND-SPD 15	CLD-TPE 7	
MARSD SQ 113		W-TRNSP	BARO 1002.6	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
118	0000	1745 B	36447		2654	15165
118	0008	1743	36451		2654	15167
118	0023	1744	36452	511	2654	15170
118	0058	1745	36458		2654	15176
118	0077	1744	36458	511	2654	15179
123	0143	1744	36458	498	2654	15190
123	0176	1664	36304	526	2662	15169
123	0209	1637	36251	526	2664	15166
123	0239	1554	36062	506	2669	15143
123	0296	1421	35807	476	2678	15107
123	0350	1373	35787	399	2687	15100
123	0408	1286	35672	370	2696	15079
123	0550	1056	35324	344	2713	15019
143	0926	0493	35016	533	2772	14860
143	1163	0438	35001	580	2777	14877
143	1389	0398	34964	601	2778	14898
143	1620	0387	34975	613	2780	14932
143	1844	0368	34970	612	2782	14962
143	2071	0352	34967	612	2783	14994
143	2644	0318	34966	602	2786	15077
143	3253	0268	34942	598	2789	15161
143	3904	0233	34920	608	2790	15260

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1745 B	36447		2653	15166	0000	00000	1510
0010	1743	36451		2654	15167	0015	00001	1506
0020	1744	36452		2654	15169	0030	00003	1510
0030	1744	36453		2654	15171	0046	00007	1515
0050	1745	36457		2654	15175	0076	00020	1520
0075	1744	36458		2654	15178	0115	00044	1526
0100	1756 D	3648 E		2653	15186	0153	00079	1545
0125	1754 D	3648 E		2653	15190	0192	00124	1552
0150	1727 B	3643 B		2656	15185	0231	00179	1536
0175	1666	36309		2662	15170	0269	00242	1490
0200	1645 B	3627 C		2663	15167	0307	00314	1479
0225	1596 B	3616 B		2666	15155	0344	00395	1458
0250	1524	35998		2671	15135	0380	00484	1424
0300	1417	35803		2679	15106	0450	00681	1355

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1299	35691		2695	15083	0580	01146	1227
0500	1138	3545 C		2707	15041	0699	01692	1124
0600	0962 E	3525 D		2723	14992	0805	02289	0979
0700	0792 I	3513 G		2740	14943	0896	02889	0810
*0800	0645 I	3505 G		2755	14902	0970	03460	0664
1000	0463 D	3501 H		2774	14860	1085	04507	0474
1200	0430	34994		2777	14880	1180	05580	0461
1500	0391	34967		2779	14914	1320	07526	0459
2000	0357	34968		2783	14984	1552	11709	0454
2500	0327	34967		2785	15057	1782	17050	0449
3000	0289	34953		2788	15127	2008	23457	0435
3500	0258 B	34938		2790	15200	2228	30861	0426

C-REF-NO 001 YR 1963 DEPTH 4950 WAVES 1 2235 AIR T 16.0 VIS 98
 CONS. NO 039 MONTH 4 MXSAMPD 35 WAVES 2 2046 WET B 13.5 STN
 LAT 38-310N DAY 26 NO.DPTH 23 WND-DIR 240 WW-CODE 01
 LON 43-490W HR 01.4 W-COLOR WND-SPD 19 CLD-TPE 8
 MARSD SQ 113 W-TRNSP BARU 1006.3 CLD-AMT 3 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
014	0000	157 B	36120		2669	15110
014	0008	1582	36120		2667	15115
014	0022	1582	36122	563	2667	15117
014	0058	1572	36134		2670	15120
014	0078	1572	36134	541	2670	15123
014	0118	1490	35972	530	2676	15102
014	0158	1412	35803	476	2680	15082
014	0198	1420	35865	419	2683	15091
014	0240	1378	35799	385	2687	15084
014	0323	1264	35607	391	2695	15057
014	0408	1168	35495	336	2705	15037
014	0495	0936	35193	329	2723	14964
014	0683	0652	35058	442	2755	14885
030	0793	0498	34956	526	2766	14840
030	0962	0476	35016	556	2774	14859
030	1132	0433	35001	582	2777	14870
030	1281	0400	34975	612	2779	14881
030	1453	0386	34963	617	2779	14903
030	1628	0378	34971	612	2781	14930
030	2102	0354	34977	612	2784	15000
030	2552	0323	34972	607	2786	15064
030	3026	0288	34942	607	2787	15130
030	3500	0247	34919	617	2789	15195

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1570 B	36120		2669	15110	0000	00000	1356
0010	1583	36120		2667	15115	0014	00001	1387
0020	1583	36122		2667	15117	0028	00003	1389
0030	1580	36125		2668	15118	0042	00006	1384
0050	1574	36132		2669	15119	0070	00018	1373
0075	1573	36136		2670	15123	0104	00040	1375
0100	1533 B	3606 C		2673	15114	0139	00071	1354
0125	1473	3593 B		2677	15097	0172	00110	1324
0150	1424	3583 B		2679	15084	0205	00157	1308
0175	1413 C	3582 E		2681	15085	0238	00211	1296
0200	1419	35864		2683	15091	0271	00274	1286
0225	1397	3583 B		2685	15088	0303	00344	1271
0250	1365	35776		2688	15081	0335	00422	1254

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1297	3566 B		2693	15065	0397	00598	1217
0400	1179	3551 B		2704	15040	0516	01022	1130
0500	0926	35185		2724	14961	0620	01501	0944
0600	0757 F	3508 I		2742	14913	0707	01988	0776
0700	0624	35039		2757	14876	0778	02458	0627
0800	0495	34957		2767	14840	0837	02907	0529
1000	0467	35017		2775	14862	0938	03839	0471
1200	0416	34989		2778	14874	1031	04891	0447
1500	0384	34964		2780	14911	1168	06793	0451
2000	0360	34977		2783	14985	1397	10930	0451
2500	0327	34973		2786	15057	1625	16227	0445
3000	0290	34944		2787	15127	1852	22674	0444
3500	0247	34919		2789	15195	2073	30112	0422

C-REF-NO 001	YR 1963	DEPTH 4900	WAVES 1 2333	AIR T 16.8	VIS 98
CONS. NO 040	MONTH 4	MXSAMPD 30	WAVES 2 2265	WET B 14.1	STN
LAT 39-010N	DAY 26	NO.DPTH 18	WND-DIR 230	WW-CODE 01	
LON 43-350W	HR 09.4	W-COLOR	WND-SPD 14	CLD-TPE 6	
MARSD SQ 113		W-TRNSP	BARO 1013.4	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
111	0000	162 B	36226		2666	15126
111	0010	1617	36203		2665	15127
111	0029	1615	36205	524	2666	15129
111	0073	1608	36203		2667	15134
111	0098	1606	36202	540	2668	15138
111	0147	1525	36198	523	2686	15121
111	0196	1436	35865	506	2680	15096
111	0245	1320	35626	477	2685	15063
111	0293	1195	35352	531	2689	15025
111	0391	1120	35428	344	2709	15016
094	0996	0499	35078	545	2776	14875
094	1199	0424	35017	587	2780	14877
094	1389	0402	34994	596	2780	14900
094	1580	0383	34979	611	2781	14924
094	1787	0370	34976	615	2782	14953
094	1983	0357	34975	616	2783	14981
094	2471	0324	34969	607	2786	15050
094	2955	0286				

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1620 B	36226		2666	15126	0000	00000	1388
0010	1617	36203		2665	15127	0014	00001	1402
0020	1616	36200		2665	15128	0028	00003	1404
0030	1615	36205		2666	15129	0042	00007	1402
0050	1612	36205		2666	15132	0071	00018	1402
0075	1608	36203		2667	15135	0106	00041	1404
0100	1604	36205		2668	15137	0141	00073	1400
0125	1568 B	3622 E		2678	15131	0175	00112	1319
0150	1520	3618 B		2685	15119	0208	00158	1252
0175	1476	3602 F		2683	15108	0240	00211	1282
0200	1427	35844		2680	15094	0273	00274	1317
0225	1370	3572 B		2682	15078	0306	00346	1297
0250	1306	3559 B		2686	15059	0338	00425	1270
0300	1186 B	3534 C		2690	15023	0401	00603	1237
0400	1030 I	3514 I		2703	14982	0521	01030	1132
0500	0876 I	3493 I		2712	14939	0631	01539	1053
*0600	0749 I	3480 I		2721	14906	0733	02114	0970
*0700	0647 I	3475 I		2731	14882	0826	02734	0874

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
*0800	0571 I	3478 I		2744	14868	0909	03369	0760
1000	0497	35076		2776	14875	1033	04488	0466
1200	0424	35017		2780	14878	1124	05521	0436
1500	0390	34984		2781	14914	1259	07390	0445
2000	0356	34974		2783	14984	1486	11488	0448
2500	0321							
3000	0282							

C-REF-NO 001	YR 1963	DEPTH 4645	WAVES 1 2344	AIR T 16.5	VIS 97
CONS. NO 041	MONTH 4	MXSAMPD 28	WAVES 2 2346	WET B 14.1	STN
LAT 39-246N	DAY 26	NO.DPTH 21	WND-DIR 230	WW-CODE 81	
LON 43-125W	HR 15.6	W-COLOR	WND-SPD 14	CLD-TPE 8	
MARSD SQ 113		W-TRNSP	BARO 1013.2	CLD-AMT 5	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
156	0000	163 B	36276		2668	15130
156	0010	1635	36256		2665	15133
156	0028	1636	36260	549	2665	15136
156	0071	1631	36254		2666	15142
156	0095	1629	36256	541	2666	15145
156	0142	1578	36178	528	2672	15136
156	0190	1542	36108	527	2675	15132
156	0236	1499	36018	516	2678	15125
156	0284	1460	35948	446	2681	15119
156	0382	1283	35643	392	2694	15074
156	0471	1100 B	35415	334	2712	15022
156	0565	0870	35173	371	2732	14951
156	0749	0694	35166	458	2758	14914
172	0911	0562	35085	528	2769	14887
172	1108	0461	35023	585	2776	14878
172	1311	0417	34990	614	2778	14893
172	1492	0392	34961	640	2779	14913
172	1687	0378	34957	639	2780	14939
172	1869	0368	34954	630	2780	14966
172	2335	0340	34953	642	2783	15033
172	2805	0308				

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1630 B	36276		2668	15130	0000	00000	1374
0010	1635	36256		2665	15133	0014	00001	1403
0020	1636	36255		2665	15135	0028	00003	1410
0030	1636	36260		2665	15136	0042	00007	1409
0050	1634	36258		2665	15139	0071	00018	1413
0075	1631	36255		2666	15142	0106	00041	1417
0100	1625	36250		2667	15144	0142	00073	1414
0125	1599 B	3621 B		2670	15140	0177	00114	1393
0150	1572	36167		2673	15135	0212	00163	1374
0175	1553	36131		2674	15133	0247	00221	1367
0200	1533	36088		2675	15130	0281	00287	1362
0225	1509	36040		2677	15127	0315	00362	1355
0250	1489	35999		2678	15124	0350	00445	1349
0300	1436 B	3590 B		2682	15114	0417	00635	1323
0400	1248	35595		2698	15064	0544	01089	1197

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0500	1026 C	3533 B		2718	15000	0655	01598	1005
0600	0821 D	3515 F		2738	14938	0747	02115	0820
0700	0722 F	3514 H		2752	14916	0824	02622	0692
0800	0649	35143		2762	14904	0889	03124	0600
1000	0509	35053		2773	14880	1000	04145	0500
1200	0436	35006		2777	14883	1098	05242	0460
1500	0391	34961		2779	14914	1238	07199	0464
2000	0360	34953		2781	14985	1475	11483	0470
2500	0329							

C-REF-NO 001 YR 1963 DEPTH 4600 WAVES 1 2432 AIR T 16.4 VIS 98
 CONS. NO 042 MONTH 4 MXSAMPD 34 WAVES 2 2455 WET B 14.1 STN
 LAT 39-510N DAY 26 NO.DPTH 22 WND-DIR 230 WW-CODE 01
 LON 43-000W HR 21.7 W-COLOR WND-SPD 11 CLD-TPE 6
 MARSD SQ 113 W-TRNSP BARO 1016.2 CLD-AMT 4 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
217	0000	163 B	36218		2663	15129
217	0009	1629	36222		2664	15130
217	0026	1625	36216	545	2664	15132
217	0067	1625	36232		2665	15139
217	0088	1627	36231	538	2665	15143
217	0132	1622	36247	521	2667	15149
217	0187	1575	36157	521	2671	15142
217	0222	1552	36110	526	2673	15140
217	0268	1543	36113	526	2675	15145
217	0358	1439	35882	491	2680	15124
217	0444	1279	35604	395	2692	15082
217	0539	1122	35431	355	2709	15042
217	0735	0790	35177	414	2745	14949
230	0974	0513	34976	527	2766	14876
230	1168	0478	35033	567	2775	14895
230	1365	0422	34984	595	2777	14904
230	1546	0399	34968	612	2778	14925
230	1746	0377	34950	620	2779	14949
230	1942	0369	34959	621	2781	14979
230	2427	0342	34955	617	2783	15050
230	2930	0309	34949	617	2786	15123
230	3427	0269	34940	629	2789	15192

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1630 B	36218		2663	15129	0000	00000	1416
0010	1629	36222		2664	15130	0014	00001	1414
0020	1626	36219		2664	15131	0028	00003	1414
0030	1625	36217		2664	15132	0043	00007	1415
0050	1624	36224		2665	15136	0071	00018	1415
0075	1626	36232		2665	15140	0107	00041	1422
0100	1628	36238		2665	15145	0143	00073	1429
0125	1624	36246		2667	15148	0179	00115	1424
0150	1608	3622 B		2669	15147	0215	00165	1414
0175	1587	3618 B		2670	15144	0250	00225	1404
0200	1565	36137		2672	15141	0285	00293	1398
0225	1552	36110		2673	15141	0321	00369	1395
0250	1547	3611 B		2674	15143	0356	00455	1391
0300	1516	3605 C		2676	15141	0426	00653	1384

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1364 B	3574 C		2685	15105	0562	01141	1318
0500	1185	3549 B		2702	15058	0688	01720	1178
0600	1014 B	35340		2721	15012	0798	02338	1001
0700	0846 B	35214		2739	14965	0891	02953	0831
0800	0695 B	3510 B		2753	14922	0968	03546	0698
1000	0504 B	3498 B		2768	14877	1094	04696	0546
1200	0469	35028		2775	14896	1198	05875	0487
1500	0403	34971		2778	14919	1344	07902	0472
2000	0366	34960		2781	14988	1585	12237	0473
2500	0338	34954		2783	15061	1826	17842	0474
3000	0303	34948		2786	15133	2065	24624	0462

C-REF-NO 001 YR 1963 DEPTH 4890 WAVES 1 1822 AIR T 16.0 VIS 97
 CONS. NO 043 MONTH 4 MXSAMPD 35 WAVES 2 2445 WET B 13.1 STN
 LAT 40-148N DAY 27 NO.DPTH 22 WND-DIR 240 WW-CODE 03
 LON 42-340W HR 04.1 W-COLOR WND-SPD 11 CLD-TPE 8
 MARSD SQ 149 W-TRNSP BARO 1019.2 CLD-AMT 6 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
041	0000	1554 B	36238		2683	15105
041	0010	1556	36183		2678	15108
041	0029	1556	36179	552	2677	15111
041	0073	1556	36185		2678	15118
041	0098	1557	36186	556	2678	15122
041	0147	1552	36182	546	2678	15129
041	0196	1518	36100	538	2680	15125
041	0245	1473	35995	526	2682	15118
041	0295	1407	35854	506	2685	15103
041	0392	1347	35792	477	2693	15099
041	0494	1244	35620	431	2700	15079
041	0591	1057	35349	391	2714	15026
041	0791	0680	35016	453	2748	14913
050	0987	0640	35205	505	2768	14932
050	1189	0498	35071	569	2776	14907
050	1384	0453	35034	591	2778	14921
050	1582	0412	34987	618	2778	14936
050	1780	0392	34986	618	2780	14961
050	1976	0373	34968	625	2781	14986
050	2464	0338	34954	627	2783	15055
050	2965	0302	34949	625	2786	15126
050	3460	0268	34944	629	2789	15197

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1554 B	36238		2682	15106	0000	00000	1236
0010	1556	36183		2678	15108	0013	00001	1283
0020	1556	3617 B		2677	15109	0026	00003	1295
0030	1556	36179		2677	15111	0039	00006	1293
0050	1556	36181		2677	15114	0065	00017	1297
0075	1556	36185		2678	15118	0098	00038	1303
0100	1557	36187		2678	15123	0130	00067	1312
0125	1557	36189		2678	15127	0164	00106	1317
0150	1550	36178		2678	15129	0197	00153	1319
0175	1535	36141		2679	15128	0230	00208	1321
0200	1515	36092		2680	15125	0263	00272	1321
0225	1493	36041		2681	15121	0297	00345	1320
0250	1466	35980		2682	15116	0330	00426	1315
0300	1403	35849		2685	15103	0396	00612	1294

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1341	35783		2693	15098	0524	01071	1245
0500	1234	35604		2701	15076	0647	01638	1189
0600	1036 B	35325		2716	15020	0760	02274	1051
0700	0830 G	3512 C		2734	14957	0857	02920	0877
0800	0676 B	3502 B		2749	14913	0938	03542	0728
1000	0631	3520 B		2769	14931	1069	04734	0562
1200	0494	35068		2776	14907	1176	05936	0492
1500	0427	35004		2778	14929	1323	07991	0480
2000	0371	34967		2781	14990	1566	12365	0475
2500	0335	34953		2784	15060	1807	17961	0472
3000	0300	34947		2786	15131	2044	24686	0457
3500	0265	34944		2789	15204	2271	32331	0434

C-REF-NO 001	YR 1963	DEPTH 4750	WAVES 1 1621	AIR T 15.3	VIS 91
CONS. NO 044	MONTH 4	MXSAMPD 34	WAVES 2 2422	WET B 15.3	STN
LAT 40-008N	DAY 28	NO.DPTH 22	WND-DIR 140	WW-CODE 45	
LUN 39-012W	HR 04.1	W-COLOR	WND-SPD 06	CLD-TPE X	
MARSD SQ 148		W-TRNSP	BARO 1029.2	CLD-AMT 9	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
041	0000	1535 B	36010		2670	15096
041	0010	1497	35992		2676	15087
041	0029	1491	36030	574	2680	15089
041	0071	1484	36029		2682	15093
041	0094	1485	36030	563	2682	15097
041	0141	1468	36020	534	2685	15099
041	0187	1445	35982	548	2687	15099
041	0234	1421	35948	561	2689	15099
041	0281	1406	35929	553	2691	15101
041	0373	1335	35782	550	2694	15091
041	0472	1170	35497	395	2705	15048
041	0561	0978	35312	402	2725	14992
041	0760	0752	35234	440	2755	14939
048	0960	0626	35194	503	2769	14922
048	1156	0530	35118	549	2775	14915
048	1349	0467	35061	578	2778	14921
048	1537	0418	35002	622	2779	14931
048	1738	0377	34966	627	2780	14948
048	1923	0366	34960	624	2781	14974
048	2394	0332	34955	626	2784	15040
048	2894	0296	34938	632	2786	15111
048	3361	0257	34921	659	2788	15175

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1535 B	36010		2669	15097	0000	00000	1361
0010	1497	35992		2676	15087	0013	00001	1297
0020	1488 B	3601 B		2679	15086	0026	00003	1271
0030	1491	36031		2680	15089	0039	00006	1262
0050	1486	3604 B		2682	15091	0064	00016	1254
0075	1484	36029		2682	15094	0096	00037	1263
0100	1484	36030		2682	15098	0128	00065	1269
0125	1476	36026		2683	15099	0160	00102	1263
0150	1464	36013		2685	15099	0192	00147	1255
0175	1451	35993		2686	15099	0223	00200	1251
0200	1438	35972		2687	15099	0255	00260	1247
0225	1425	35954		2689	15099	0286	00329	1241
0250	1416	35943		2690	15100	0317	00405	1237
0300	1397	35909		2691	15101	0380	00581	1237

DEPTH	T E M P	S . A L	OXYGEN	SGMT	SOUND	DELTA-D	POT. EN	SVA
0400	1297	3571 C		2696	15082	0503	01025	1211
0500	1109 B	35430		2711	15030	0619	01557	1081
0600	0919 C	3528 D		2732	14976	0718	02113	0884
0700	0800 C	3523 E		2748	14948	0801	02660	0746
0800	0722	35226		2759	14934	0871	03201	0646
1000	0604	35179		2771	14920	0991	04300	0538
1200	0514	35104		2776	14916	1095	05478	0492
1500	0427	35013		2779	14929	1242	07515	0473
2000	0361	34959		2782	14986	1480	11815	0466
2500	0325	34952		2785	15056	1715	17269	0457
3000	0287	34936		2787	15126	1945	23800	0444

C-REF-NO 001	YR 1963	DEPTH 5000	WAVES 1 1521	AIR T 17.4	VIS 98
CONS. NO 045	MONTH 4	MXSAMPD 35	WAVES 2 1522	WET B 16.0	STN
LAT 39-294N	DAY 28	NO.DPTH 22	WND-DIR 140	WW-CODE 03	
LON 39-016W	HR 09.8	W-COLOR	WND-SPD 12	CLD-TPE 7	
MARSD SQ 112		W-TRNSP	BARU 1028.2	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
098	0000	1648 B	36277		2665	15133
098	0010	1649	36251		2661	15137
098	0029	1635	36250	566	2664	15136
098	0072	1629	36251		2666	15141
098	0097	1593	36202	527	2671	15134
098	0146	1568	36161	536	2673	15133
098	0195	1529	36107	549	2678	15129
098	0244	1509	36082	544	2680	15130
098	0293	1484	36043	543	2683	15130
098	0390	1433	35963	553	2688	15128
098	0490	1363	35855	545	2694	15121
098	0588	1267	35656	485	2698	15102
098	0787	0770	35102	417	2742	14949
108	0986	0627	35150	487	2766	14926
108	1189	0543	35133	536	2775	14926
108	1390	0455	35037	581	2778	14923
108	1577	0424	35020	598	2780	14941
108	1773	0383	34967	615	2780	14956
108	1969	0374	34979	615	2782	14986
108	2470	0331	34952	623	2784	15053
108	2964	0291	34940	615	2787	15121
108	3453	0256	34920	620	2788	15190

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1648 B	36277		2663	15135	0000	00000	1413
0010	1649	36251		2661	15137	0014	00001	1438
0020	1642	36246		2662	15137	0029	00003	1430
0030	1635	36251		2664	15136	0043	00007	1414
0050	1634 B	3626 B		2665	15139	0072	00018	1414
0075	1625	36246		2666	15140	0107	00041	1409
0100	1591	36199		2671	15133	0142	00073	1377
0125	1576 B	36175		2672	15133	0177	00113	1369
0150	1565	36156		2673	15133	0211	00161	1366
0175	1545	36128		2676	15130	0246	00218	1351
0200	1527	36104		2678	15129	0279	00284	1338
0225	1516	36091		2679	15129	0313	00357	1332
0250	1506	36078		2681	15130	0347	00439	1328
0300	1481	36038		2683	15130	0413	00627	1318

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1427	35955		2688	15128	0545	01101	1295
0500	1356	35838		2694	15120	0674	01697	1262
0600	1238 D	3562 C		2701	15094	0799	02402	1213
0700	0990 I	3532 I		2724	15020	0911	03143	0996
0800	0754 B	3510 B		2744	14945	1001	03834	0791
1000	0620	35151		2767	14926	1140	05100	0582
1200	0538	35128		2775	14926	1251	06343	0508
1500	0434	3503 B		2779	14933	1400	08414	0474
2000	0372	34978		2782	14990	1639	12726	0467
2500	0328	34951		2784	15057	1876	18227	0463
3000	0289	34935		2787	15126	2109	24829	0448
3500	0253	34919		2788	15198	2334	32388	0432

C-REF-NO 001	YR 1963	DEPTH 5075	WAVES 1 1621	AIR T 17.8	VIS 98
CONS. NO 046	MONTH 4	MXSAMPD 39	WAVES 2 1622	WET B 16.8	STV
LAT 38-580N	DAY 28	NO.DPTH 23	WND-DIR 170	WW-CODE 03	
LON 39-020W	HR 15.5	W-COLOR	WND-SPD 09	CLD-TPE 0	
MARSD SQ 112		W-TRNSP	BARO 1028.6	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
155	0000	1728 B	36303		2648	15157
155	0010	1724	36288		2646	15160
155	0029	1693	36280	568	2653	15154
155	0073	1652	36266		2662	15148
155	0097	1638	36259	553	2664	15148
155	0145	1622	36235	548	2666	15151
155	0194	1588	36187	530	2671	15148
155	0243	1572	36172	537	2673	15151
155	0292	1552	36126	401	2674	15152
155	0391	1410	35855	445	2684	15120
155	0491	1310	35718	475	2695	15102
155	0591	1155	35543	483	2711	15063
155	0792	0856	35202	527	2737	14984
166	0979	0665	35153	475	2761	14940
166	1173	0546	35103	534	2772	14924
166	1370	0509	35120	553	2778	14943
166	1546	0471	35092	580	2780	14956
166	1743	0410	35017	601	2781	14963
166	1934	0378	34983	619	2782	14982
166	2425	0331	34955	622	2784	15045
166	2905	0297	34945	613	2787	15113
166	3397	0259	34922	619	2788	15182
166	3885	0235	34906	624	2789	15257

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1728 B	36303		2646	15160	0000	00000	1576
0010	1724	36288		2646	15160	0016	00001	1581
0020	1709	36282		2649	15157	0032	00003	1554
0030	1692	36280		2653	15153	0047	00007	1520
0050	1670	36273		2658	15150	0077	00020	1481
0075	1651	36265		2662	15148	0114	00043	1453
0100	1637	36258		2665	15148	0151	00076	1436
0125	1629	36247		2666	15150	0187	00118	1433
0150	1619	36230		2667	15150	0223	00169	1431
0175	1601	36205		2669	15149	0259	00228	1419
0200	1586	36185		2671	15148	0294	00297	1407
0225	1577	36177		2672	15149	0330	00374	1402
0250	1570	36168		2673	15151	0365	00461	1402

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1542	3611 B		2675	15150	0436	00660	1401
0400	1401	35841		2685	15118	0573	01153	1325
0500	1297	35703		2696	15099	0703	01749	1241
0600	1140	35524		2713	15059	0821	02412	1095
0700	0986 B	3534 D		2726	15018	0925	03108	0974
0800	0846	35197		2738	14981	1018	03821	0863
1000	0648	35146		2763	14937	1169	05193	0627
1200	0539	35105		2773	14926	1286	06506	0526
1500	0482	35103		2780	14953	1439	08632	0483
2000	0370	34976		2782	14990	1680	12972	0466
2500	0325	34953		2785	15056	1915	18428	0457
3000	0289	34941		2787	15127	2146	24964	0445
3500	0256	34921		2788	15199	2371	32521	0434

C-REF-NO 001 YR 1963 DEPTH 4680 WAVES 1 1721 AIR T 17.8 VIS 98
 CONS. NO 047 MONTH 4 MXSAMPD 39 WAVES 2 1622 WET B 16.8 STN
 LAT 38-300N DAY 28 NO.DPTH 23 WND-DIR 160 WW-CODE 02
 LON 39-016W HR 21.4 W-COLOR WND-SPD 10 CLD-TPE 4
 MARSD SQ 112 W-TRNSP BARO 1029.0 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
214	0000	1703 B	36270		2651	15151
214	0009	1695	36302	562	2654	15151
214	0047	1664	36296	530	2661	15148
214	0095	1602	36184	511	2667	15136
214	0143	1594	36175	508	2668	15141
214	0191	1588	36195	526	2671	15147
214	0238	1510	36016	503	2675	15129
214	0287	1441	35859	490	2678	15113
214	0385	1325	35690	418	2689	15089
214	0484	1231	35629	465	2704	15073
214	0584	1122	35503	441	2715	15050
214	0683	0963	35316	391	2728	15007
214	0784	0825	35211	406	2742	14971
224	0972	0646	35158	422	2764	14932
224	1171	0547	35131	527	2774	14925
224	1374	0461	35032	573	2777	14922
224	1564	0416	34994	602	2779	14935
224	1760	0396	34986	603	2780	14960
224	1951	0378	34976	613	2781	14984
224	2434	0336	34959	611	2784	15049
224	2913	0298	34941	608	2786	15115
224	3410	0257 B	34922	608	2788	15183
224	3910	0232	34905	620	2789	15260

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1703 B	36270		2650	15152	0000	00000	1542
0010	1694	36304		2655	15151	0015	00001	1501
0020	1687	3632 B		2657	15151	0030	00003	1479
*0030	1679	3632 B		2659	15150	0045	00007	1463
0050	1660	36289		2662	15147	0074	00019	1447
0075	1626 B	3623 C		2665	15140	0111	00042	1422
0100	1600	36180		2667	15136	0146	00074	1410
0125	1594	36171		2668	15138	0182	00115	1411
0150	1595	3618 B		2669	15143	0217	00165	1414
0175	1594 B	3620 C		2670	15147	0253	00225	1408
0200	1575	3617 B		2672	15145	0288	00293	1398
0225	1535 B	3607 C		2674	15135	0323	00369	1384
0250	1492	35974		2676	15124	0358	00454	1374

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1424	35828		2679	15109	0427	00648	1352
0400	1310	3568 B		2692	15086	0559	01119	1258
0500	1216	35613		2705	15070	0680	01678	1148
0600	1097	35472		2717	15043	0791	02304	1053
0700	0938	35293		2731	15000	0891	02969	0925
0800	0806	35202		2744	14966	0978	03636	0795
1000	0629	35155		2766	14930	1118	04914	0592
1200	0533	35117		2775	14924	1230	06169	0510
1500	0428	35002		2778	14930	1381	08261	0482
2000	0374	34974		2781	14991	1623	12633	0473
2500	0331	34957		2784	15058	1861	18159	0462
3000	0290	34938		2787	15127	2094	24762	0449
3500	0254	34919		2788	15199	2320	32345	0434

C-REF-NO 001	YR 1963	DEPTH 4050	WAVES 1 1732	AIR T 17.7	VIS 98
CONS. NO 048	MONTH 4	MXSAMPD 39	WAVES 2 1522	WET B 16.9	STN
LAT 38-014N	DAY 29	NO.DPTH 23	WND-DIR 170	WW-CODE 01	
LON 39-008W	HR 03.3	W-COLOR	WND-SPD 11	CLD-TPE 8	
MARSD SQ 112		W-TRNSP	BARO 1029.5	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
033	0000	177 B	36416		2645	15173
033	0009	1763	36417	553	2647	15173
033	0043	1718	36362	558	2653	15164
033	0087	1681	36322	543	2659	15160
033	0131	1663	36299	527	2662	15162
033	0174	1631	36243	529	2665	15158
033	0220	1580	36138	507	2669	15149
033	0266	1577	36159	551	2671	15156
033	0362	1469	35927	502	2677	15135
033	0460	1320	35675	431	2689	15099
033	0558	1148	35464	390	2707	15054
033	0662	1072	35424	412	2717	15044
033	0763	0893	35241	398	2734	14993
043	0964	0707	35235	461	2761	14955
043	1158	0589	35172	518	2772	14940
043	1357	0546	35177	544	2778	14956
043	1552	0473	35092	580	2780	14958
043	1750	0412	35020	608	2781	14965
043	1939	0394	35014	611	2783	14990
043	2421	0334	34963	614	2784	15046
043	2920	0296	34947	608	2787	15115
043	3420	0259	34925	622	2788	15186
043	3919	0234	34920	621	2790	15263

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1770 B	36416		2645	15173	0000	00000	1591
0010	1762	36416		2647	15172	0016	00001	1575
0020	1749 B	3640 B		2649	15170	0032	00003	1559
*0030	1736	3639 B		2651	15168	0047	00007	1543
0050	1711	36354		2654	15163	0078	00020	1516
0075	1689	36330		2658	15161	0116	00044	1492
0100	1675	36316		2660	15160	0153	00078	1480
0125	1665	36303		2661	15161	0191	00121	1475
0150	1651	36279		2663	15161	0228	00173	1468
0175	1630	36240		2665	15158	0265	00235	1457
0200	1600 B	3618 B		2667	15152	0301	00305	1444
0225	1579	36139		2669	15150	0337	00384	1434
0250	1577 B	3615 C		2670	15153	0374	00472	1430

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1549 B	3610 E		2673	15152	0445	00675	1420
0400	1415	35828		2681	15123	0586	01178	1362
0500	1245 C	3558 B		2697	15080	0717	01780	1231
0600	1117 D	3545 E		2711	15050	0835	02445	1109
0700	1007 C	3536 D		2724	15026	0941	03155	0999
0800	0848 B	3522 E		2740	14982	1035	03870	0845
1000	0680	35223		2764	14951	1183	05218	0618
1200	0578 B	3517 B		2774	14943	1299	06528	0532
1500	0493	35118		2780	14958	1454	08676	0488
2000	0386	35008		2783	14997	1697	13037	0466
2500	0327	34959		2785	15057	1931	18481	0455
3000	0290	34943		2787	15127	2161	24996	0444
3500	0256	34927		2789	15199	2385	32514	0431

C-REF-NO 001	YR 1963	DEPTH 3800	WAVES 1 1721	AIR T 18.2	VIS 98
CONS. NO 049	MONTH 4	MXSAMPD 34	WAVES 2 1622	WET B 17.1	STV
LAT 37-328N	DAY 29	NO.DPTH 22	WND-DIR 180	WW-CODE 03	
LON 38-597W	HR 09.6	W-COLOR	WND-SPD 06	CLD-TPE 6	
MARSD SQ 112		W-TRNSP	BARO 1029.4	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
096	0000	180 B	36364		2633	15181
096	0009	1793	36357	514	2635	15181
096	0047	1743	36361	552	2647	15172
096	0094	1685	36298	533	2656	15162
096	0141	1633	36198	550	2661	15153
096	0187	1610	36191	548	2666	15153
096	0234	1590	36215	538	2672	15155
096	0282	1564	36157	538	2674	15154
096	0375	1456	35941	603	2681	15133
096	0467	1336	35748	473	2692	15107
096	0566	1212	35575	419	2703	15079
096	0666	1076	35416	391	2716	15046
096	0764	0917	35286	390	2733	15003
107	0961	0716	35202	441	2758	14958
107	1154	0641	35243	496	2771	14961
107	1354	0548	35165	533	2777	14956
107	1537	0490	35115	563	2780	14963
107	1733	0451	35078	576	2781	14979
107	1928	0406	35028	589	2782	14993
107	2409	0341	34969	608	2784	15047
107	2886	0300	34944	603	2786	15111
107	3365	0266	34926	608	2788	15179

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1800 B	36364		2633	15181	0000	00000	1699
0010	1792	36357		2635	15180	0017	00001	1688
0020	1780	3636 B		2638	15179	0034	00003	1664
*0030	1767 B	3636 B		2641	15177	0051	00008	1636
0050	1739	36359		2648	15172	0083	00021	1578
0075	1708	36330		2653	15166	0122	00046	1535
0100	1677	36284		2657	15161	0160	00080	1508
0125	1649	3623 B		2660	15155	0198	00124	1491
0150	1627	36192		2662	15153	0236	00177	1478
0175	1615	36187		2664	15153	0273	00239	1462
0200	1605	36200		2668	15154	0309	00309	1438
0225	1594	36212		2671	15155	0345	00387	1414
0250	1583	36202		2673	15156	0381	00474	1404
0300	1547	3612 B		2675	15152	0451	00674	1401

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1424	35886		2684	15126	0590	01169	1338
0500	1295	35687		2695	15098	0720	01770	1248
0600	1168	35519		2707	15069	0841	02453	1150
0700	1020	35366		2722	15031	0951	03180	1014
0800	0870	35257		2739	14991	1045	03906	0857
1000	0697 B	3521 B		2761	14957	1198	05299	0652
1200	0619	3523 B		2773	14960	1320	06670	0551
1500	0500	35124		2779	14961	1479	08867	0493
2000	0393	35015		2783	15000	1724	13275	0471
2500	0332	34963		2785	15059	1961	18776	0460
3000	0288	34935		2787	15126	2193	25357	0448

C-REF-NO 001	YR 1963	DEPTH 3885	WAVES 1 1821	AIR T 18.6	VIS 98
CONS. NO 050	MONTH 4	MXSAMPD 37	WAVES 2 1822	WET B 17.4	STN
LAT 37-040N	DAY 29	NO.DPTH 23	WND-DIR 180	WW-CODE 01	
LON 38-587W	HR 15.6	W-COLOR	WND-SPD 07	CLD-TPE 8	
MARSD SQ 112		W-TRNSP	BARO 1029.1	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
156	0000	174 B	36200		2636	15162
156	0010	1736	36193	579	2636	15162
156	0048	1663	36203	565	2654	15147
156	0097	1588	36171	533	2669	15132
156	0145	1552	36118	515	2673	15128
156	0193	1542	36104	523	2675	15132
156	0242	1517	36064	526	2677	15132
156	0290	1455	35939	497	2681	15119
156	0386	1336	35752	463	2692	15093
156	0483	1226	35622	459	2704	15071
156	0581	1111	35487	429	2715	15045
156	0679	1018	35423	421	2727	15027
156	0776	0919	35390	426	2741	15007
169	0976	0790	35414	442	2763	14992
169	1175	0615	35214	502	2772	14954
169	1376	0548	35189	533	2779	14960
169	1555	0474	35111	560	2781	14959
169	1750	0421	35038	581	2782	14969
169	1933	0390	35018	591	2783	14987
169	2404	0340	34980	592	2785	15046
169	2880	0300	34951	590	2787	15110
169	3342	0278	34937	598	2788	15181
169	3699	0265	34924	606	2788	15237

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1740 B	36200		2636	15162	0000	00000	1678
0010	1736	36193		2636	15162	0017	00001	1677
0020	1721 B	36194		2640	15159	0034	00003	1645
0030	1702 C	3620 B		2644	15156	0050	00008	1605
0050	1659	36202		2655	15146	0081	00020	1510
0075	1618	36190		2664	15137	0118	00044	1435
0100	1585	36167		2670	15131	0154	00076	1386
0125	1563	36139		2672	15128	0189	00116	1368
0150	1551	36116		2674	15128	0223	00165	1365
0175	1545	36108		2674	15130	0257	00222	1366
0200	1540	36102		2675	15133	0292	00288	1368
0225	1529	36084		2676	15133	0326	00364	1364
0250	1508	36045		2676	15130	0361	00447	1356

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1442	35916		2682	15116	0428	00638	1326
0400	1320	35732		2694	15090	0558	01101	1239
0500	1205	35596		2706	15066	0678	01654	1140
0600	1092	35471		2717	15042	0788	02275	1045
0700	0996	35413		2730	15023	0888	02942	0937
0800	0902 B	3540 B		2744	15005	0977	03620	0810
1000	0767 B	3539 C		2765	14987	1122	04951	0630
1200	0604	3521 B		2773	14954	1241	06291	0545
1500	0496	35137		2781	14960	1397	08441	0478
2000	0381	35012		2784	14995	1635	12713	0456
2500	0331	34973		2786	15058	1865	18075	0451
3000	0293	34947		2787	15128	2094	24583	0447
3500	0271	34929		2788	15206	2324	32322	0452

C-REF-NO 001	YR 1963	DEPTH 3986	WAVES 1 1721	AIR T 18.7	VIS 98
CONS. NO 051	MONTH 4	MXSAMPD 34	WAVES 2 1722	WET B 17.4	STN
LAT 37-030N	DAY 29	NO.DPTH 22	WND-DIR 200	WW-CODE 03	
LON 39-585W	HR 23.2	W-COLOR	WND-SPD 09	CLD-TPE 1	
MARSD SQ 112		W-TRNSP	BARO 1028.8	CLD-AMT 6	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
232	0000	1785 B	36320		2635	15175
232	0009	1794	36328	567	2632	15181
232	0047	1670	36219	564	2654	15149
232	0094	1628	36193	557	2662	15144
232	0142	1612	36196	539	2666	15147
232	0189	1555	36099	441	2671	15136
232	0236	1563	36155	536	2674	15147
232	0283	1545	36121	535	2675	15148
232	0379	1445	35908	491	2681	15130
232	0471	1328	35734	462	2692	15105
232	0565	1208	35583	433	2704	15078
232	0665	1024	35354	384	2721	15026
232	0766	0864	35249	399	2739	14983
*246	0968	0701	35246	459	2763	14954
*246	1177	0582	35186	518	2774	14941
*246	1373	0500	35108	554	2778	14939
*246	1550	0438	35039	586	2780	14942
*246	1755	0393	34991	608	2781	14958
*246	1944	0376	34987	608	2782	14983
*246	2435	0331	34970	601	2785	15047
*246	2935	0291	34945	599	2787	15116
*246	3420	0261	34925	600	2788	15187

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1785 B	36320		2634	15176	0000	00000	1696
0010	1792	36326		2632	15180	0017	00001	1711
0020	1767 F	3630 D		2637	15174	0034	00003	1673
*0030	1737 G	3628 D		2642	15167	0051	00008	1625
0050	1665	36215		2655	15148	0082	00021	1513
0075	1636 B	36195		2660	15143	0120	00045	1471
0100	1626	36195		2662	15144	0157	00078	1458
0125	1619 B	3620 B		2664	15146	0193	00120	1446
0150	1601 B	3618 B		2667	15145	0230	00171	1431
0175	1571 B	3613 C		2670	15139	0265	00231	1410
0200	1555 B	3611 C		2672	15138	0301	00299	1395
0225	1559 B	3614 C		2673	15143	0336	00376	1391
0250	1560	36152		2674	15148	0371	00461	1391

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1531	3609 B		2676	15146	0441	00659	1389
0400	1419	35866		2683	15124	0579	01154	1344
0500	1294	35689		2696	15097	0710	01755	1244
0600	1145 B	3550 C		2710	15061	0829	02428	1122
0700	0964	35307		2727	15010	0934	03127	0960
0800	0828 B	3524 C		2744	14975	1023	03809	0801
1000	0680	35239		2766	14951	1166	05107	0606
1200	0571	35177		2775	14940	1280	06390	0520
1500	0454	35057		2779	14941	1431	08490	0477
2000	0371	34985		2783	14990	1670	12780	0460
2500	0325	34967		2786	15056	1901	18142	0447
3000	0287	34944		2787	15126	2127	24569	0439

C-REF-NO 001 YR 1963 DEPTH 3990 WAVES 1 1821 AIR T 18.5 VIS 98
 CONS. NO 052 MONTH 4 MXSAMPD 38 WAVES 2 1822 WET B 17.8 STN
 LAT 37-000N DAY 30 NO.DPTH 23 WND-DIR 170 WW-CODE 01
 LON 41-000W HR 07.1 W-COLOR WND-SPD 10 CLD-TPE 6
 MARSD SQ 113 W-TRNSP BARO 1027.2 CLD-AMT 2 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
071	0000	1752 B	36357		2645	15167
071	0010	1754	36148	595	2628	15167
071	0050	1693	36318	553	2656	15158
071	0099	1607 B	36209	538	2668	15138
071	0149	1573	36152	536	2671	15135
071	0198	1544	36092	529	2673	15134
071	0248	1500	35997	502	2676	15127
071	0297	1449	35880	476	2678	15117
071	0396	1370	35764	435	2686	15106
071	0495	1224	35562	373	2700	15071
071	0591	1036	35308	341	2715	15018
071	0692	0851	35175	384	2735	14965
071	0792	0854	35382	428	2751	14985
083	0986	0672	35260	467	2768	14946
083	1180	0558	35154	523	2775	14931
083	1380	0473	35076	557	2779	14929
083	1564	0426	35031	588	2780	14940
083	1761	0394	34997	595	2781	14959
083	1954	0378	34998	595	2783	14985
083	2434	0331	34970	600	2785	15047
083	2929	0292	34950	591	2787	15115
083	3423	0256	34926	594	2789	15185
083	3827	0239	34909	605	2789	15249

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1752 B	36357		2645	15167	0000	00000	1592
0010	1754	36148		2628	15167	0017	00001	1752
0020	1744 B	3613 I		2629	15165	0034	00004	1749
0030	1731 C	3615 I		2634	15163	0052	00008	1706
0050	1693	36318		2656	15158	0084	00021	1502
0075	1647 B	3628 F		2664	15147	0121	00045	1432
0100	1606 B	36208		2668	15138	0157	00077	1404
0125	1586 B	36176		2670	15136	0192	00117	1390
0150	1572	36151		2671	15135	0227	00167	1387
0175	1558	36122		2672	15135	0262	00225	1385
0200	1542	36089		2673	15133	0297	00292	1383
0225	1522	36044		2675	15130	0332	00368	1378
0250	1498	35992		2676	15126	0366	00453	1373

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1447	35876		2678	15117	0435	00648	1365
0400	1365	35757		2686	15105	0570	01132	1311
0500	1215	35548		2700	15069	0697	01713	1193
0600	1015 B	35286		2717	15012	0810	02347	1042
0700	0849 B	3519 B		2737	14966	0905	02983	0855
0800	0848	3538 B		2752	14984	0985	03598	0730
1000	0662	35252		2769	14944	1117	04800	0570
1200	0548	35145		2775	14930	1227	06033	0510
1500	0440	35044		2780	14935	1375	08092	0467
2000	0374	34996		2783	14991	1610	12322	0457
2500	0325	34967		2786	15056	1840	17664	0447
3000	0286	34947		2788	15125	2066	24066	0436
3500	0254	34924		2789	15198	2287	31513	0430

C-REF-NO 001	YR 1963	DEPTH 4515	WAVES 1 0921	AIR T 16.7	VIS 98
CONS. NO 053	MONTH 5	MXSAMPD 10	WAVES 2 1822	WET B 16.0	STN
LAT 40-000N	DAY 01	NO.DPTH 14	WND-DIR 090	WW-CODE 01	
LON 39-000W	HR 06.6	W-COLOR	WND-SPD 07	CLD-TPE 3	
MARSD SQ 148		W-TRNSP	BARO 1032.6	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
066	0000	1593 B	36086		2662	15115
066	0010	1592	36075	585	2661	15117
066	0048	1505	36047	584	2678	15096
066	0096	1481	36039	562	2683	15096
066	0145	1470	36039	549	2686	15101
066	0194	1448	36005	546	2688	15102
066	0242	1402	35907	525	2690	15093
066	0290	1377	35871	536	2693	15093
066	0388	1325	35780	538	2696	15090
066	0482	1187	35528	546	2704	15056
066	0579	0943	35216	370	2724	14981
066	0679	0753	35067	414	2742	14924
066	0774	0708	35171	461	2756	14923
066	0975	0586	35132	518	2770	14908

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1593 B	36086		2662	15116	0000	00000	1431
0010	1592	36075		2661	15117	0014	00001	1440
0020	1573 C	36066		2665	15113	0029	00003	1408
0030	1551 D	36058		2669	15108	0043	00007	1370
0050	1503	36046		2679	15096	0070	00017	1282
0075	1485 B	36040		2682	15094	0101	00038	1256
0100	1480	36039		2683	15097	0133	00066	1255
0125	1474	36041		2685	15099	0165	00103	1250
0150	1469	36038		2686	15101	0196	00147	1247
0175	1459	36024		2687	15102	0228	00200	1244
0200	1442	35993		2688	15101	0259	00260	1240
0225	1418	3594 B		2689	15096	0290	00328	1235
0250	1397	35899		2691	15093	0321	00404	1230
0300	1374	35866		2693	15093	0383	00578	1221
0400	1312	35754		2697	15088	0505	01019	1208
0500	1143 B	3547 B		2708	15043	0623	01560	1119
0600	0894	35166		2728	14966	0726	02138	0925
0700	0738 B	3508 C		2745	14922	0811	02703	0759
0800	0649 I	3508 I		2757	14904	0882	03248	0644

C-REF-NO 001	YR 1963	DEPTH 4600	WAVES 1 1421	AIR T 17.8	VIS 96
CONS. NO 054	MONTH 5	MXSAMPD 44	WAVES 2 36X0	WET B 16.4	STV
LAT 39-585N	DAY 01	NO.DPTH 24	WND-DIR 140	WW-CODE 03	
LON 39-355W	HR 10.7	W-COLOR	WND-SPD 07	CLD-TPE 7	
MARSD SQ 112		W-TRNSP	BARO 1033.2	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
107	0000	159 B	36096		2663	15115
107	0010	1585	36092	596	2664	15115
107	0049	1525	36079	582	2676	15103
107	0099	1491	36058	562	2682	15100
107	0149	1463	36011	564	2685	15099
107	0198	1448	35987	551	2686	15102
107	0248	1417	35937	543	2689	15100
107	0298	1395	35902	542	2691	15100
107	0396	1316	35772	553	2698	15089
107	0498	1116	35419	381	2709	15032
107	0597	0907	35179	372	2727	14970
107	0695	0738	35061	419	2743	14921
107	0798	0614	35032	487	2758	14888
120	0971	0509	35016	545	2770	14874
120	1167	0498	35082	563	2776	14904
120	1369	0428	35005	597	2778	14907
120	1546	0392	34971	619	2779	14922
120	1747	0372	34956	625	2780	14947
120	1938	0363	34958	625	2781	14976
120	2403	0330	34955	612	2784	15041
120	2904	0296	34944	620	2787	15112
120	3389	0260	34926	620	2788	15181
120	3867	0234 B	34906	623	2789	15253
120	4365	0229	34904	632	2789	15339

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1590 B	36096		2663	15115	0000	00000	1417
0010	1585	36092		2664	15116	0014	00001	1412
0020	1571 B	36089		2667	15113	0028	00003	1388
0030	1556 B	36085		2670	15110	0042	00006	1362
0050	1524	36079		2677	15103	0069	00017	1304
0075	1504	36070		2681	15101	0102	00038	1275
0100	1490	36057		2683	15100	0134	00067	1263
0125	1475	36034		2684	15099	0165	00104	1256
0150	1463	36011		2685	15099	0197	00148	1255
0175	1455	35998		2686	15101	0229	00201	1255
0200	1447	35985		2686	15102	0260	00262	1255
0225	1432	35961		2688	15101	0292	00331	1249

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1416	35936		2689	15100	0323	00408	1243
0300	1394	35901		2691	15100	0386	00584	1237
0400	1309	35759		2698	15087	0509	01025	1198
0500	1112	35413		2709	15031	0624	01559	1099
0600	0901	35174		2727	14968	0727	02134	0931
0700	0731	35058		2744	14919	0813	02703	0767
0800	0612	35031		2758	14888	0883	03245	0630
1000	0506 B	3503 B		2771	14878	0999	04306	0514
1200	0488	3507 B		2777	14905	1100	05442	0479
1500	0399	34977		2779	14917	1243	07430	0462
2000	0359	34958		2782	14985	1478	11678	0464
2500	0323	34953		2785	15055	1712	17105	0454
3000	0289	34941		2787	15126	1941	23615	0444
3500	0253	34921		2789	15198	2165	31124	0430
4000	0232	34907		2789	15277	2385	39699	0431

C-REF-NO 001 YR 1963 DEPTH 4515 WAVES 1 1425 AIR T 18.0 VIS 97
 CONS. NO 055 MONTH 5 MXSAMPD 45 WAVES 2 1521 WET B 16.3 STN
 LAT 39-567N DAY 01 NO.DPTH 24 WND-DIR 140 WW-CODE 03
 LON 40-145W HR 16.9 W-COLOR WND-SPD 07 CLD-TPE 6
 MARSD SQ 113 W-TRNSP BARO 1032.6 CLD-AMT 7 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
170	0000	1594 B	36068		2661	15115
170	0009	1571	36053	612	2664	15111
170	0047	1510	36042	583	2677	15098
170	0094	1454	35983	569	2685	15087
170	0142	1443	35984	558	2687	15091
170	0190	1436	35981	565	2689	15097
170	0239	1428	35973	569	2690	15102
170	0288	1400	35918	553	2691	15100
170	0387	1332	35791	547	2696	15093
170	0485	1136	35449	412	2708	15038
170	0585	0902	35152	382	2725	14966
170	0685	0750	35074	425	2743	14924
170	0785	0612	34987	488	2755	14885
184	0995	0533	35076	544	2772	14889
184	1193	0461	35032	585	2777	14892
184	1395	0402	34962	618	2778	14900
184	1574	0376	34932	640	2778	14919
184	1775	0366	34940	642	2779	14949
184	1966	0359	34946	637	2781	14979
184	2459	0333	34947	630	2783	15052
184	2966	0298	34942	631	2786	15124
184	3470	0259	34922	630	2788	15195
184	3965	0235	34909	634	2789	15271
184	4465	0230	34900	624	2789	15357

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1594 B	36068		2660	15116	0000	00000	1446
0010	1569	36052		2665	15110	0014	00001	1406
0020	1550 B	3605 B		2669	15106	0028	00003	1372
*0030	1533 B	3604 B		2672	15102	0042	00006	1341
0050	1505	36038		2678	15097	0069	00017	1294
0075	1473	3601 B		2682	15090	0101	00038	1256
0100	1451	35982		2685	15087	0132	00066	1237
0125	1444	35980		2687	15089	0163	00102	1230
0150	1442	35984		2687	15092	0194	00146	1231
0175	1438	35982		2688	15095	0225	00197	1231
0200	1435	35981		2689	15098	0256	00257	1234
0225	1431	35978		2689	15101	0287	00325	1236

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1423	35963		2690	15102	0319	00401	1236
0300	1396	3591 B		2692	15101	0381	00577	1234
0400	1311	3575 B		2697	15087	0504	01019	1206
0500	1099 B	35396		2710	15027	0620	01552	1089
0600	0876	3513 B		2728	14959	0721	02122	0920
0700	0727	35059		2745	14917	0806	02685	0761
0800	0602 B	3499 B		2756	14883	0877	03231	0646
1000	0531	35076		2772	14889	0995	04304	0513
1200	0459	35029		2777	14892	1095	05431	0472
1500	0384	34940		2778	14911	1238	07423	0469
2000	0358	34946		2781	14984	1476	11732	0470
2500	0330	34947		2784	15058	1716	17289	0469
3000	0295	34941		2786	15129	1951	23976	0454
3500	0257	34921		2788	15200	2179	31630	0437
4000	0235	34908		2789	15278	2402	40305	0434
4500	0230	34900		2789	15364	2631	50384	0454

C-REF-NO 001	YR 1963	DEPTH 5030	WAVES 1 1822	AIR T 15.0	VIS 97
CONS. NO 056	MONTH 5	MXSAMPD 45	WAVES 2 36X0	WET B 14.5	STN
LAT 39-564N	DAY 01	NO.DPTH 24	WND-DIR 260	WW-CODE 60	
LUN 40-525W	HR 23.9	W-COLOR	WND-SPD 07	CLD-TPE 6	
MARSD SQ 113		W-TRNSP	BARO 1032.5	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
239	0000	1667 B	36246		2658	15139
239	0009	1669	36233	581	2655	15143
239	0046	1652	36267	562	2662	15144
239	0094	1628	36254	547	2666	15144
239	0140	1571	36164	534	2673	15133
239	0186	1547	36131	544	2676	15133
239	0232	1515	36079	539	2679	15130
239	0278	1513	36096	554	2680	15137
239	0361	1477	36024	541	2683	15138
239	0466	1322 B	35705	431	2691	15101
239	0562	1164	35507	405	2707	15061
239	0644	0989	35230	377	2717	15009
239	0735	0765	35074	419	2740	14938
#250	0993	0568	35079	518	2768	14903
#250	1197	0442	34973	595	2774	14884
#250	1399	0406	34953	616	2776	14903
#250	1587	0382	34935	638	2777	14924
#250	1789	0368	34929	641	2778	14952
#250	1984	0363	34943	634	2780	14983
#250	2494	0340 B	34946	630	2783	15061
#250	2981	0297	34940	630	2786	15126
#250	3474	0266	34925	630	2788	15198
#250	3970	0240	34913	631	2789	15274
#250	4468	0227	34899	626	2789	15357

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1667 B	36246		2657	15141	0000	00000	1478
0010	1669	36233		2655	15143	0015	00001	1495
0020	1666	3624 B		2656	15144	0030	00003	1489
*0030	1662 B	3625 C		2658	15144	0045	00007	1477
0050	1651	36269		2662	15144	0074	00019	1442
0075	1640	36268		2665	15145	0110	00042	1426
0100	1621	36243		2667	15143	0146	00074	1410
0125	1590	3619 B		2671	15137	0181	00115	1385
0150	1565	36155		2673	15133	0216	00164	1367
0175	1552	36137		2675	15133	0250	00221	1360
0200	1536	36113		2677	15132	0285	00287	1352

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0225	1519	36085		2678	15130	0319	00361	1343
0250	1513	3608 B		2680	15132	0352	00443	1339
0300	1509	36091		2681	15139	0420	00634	1340
0400	1428 B	3591 E		2685	15128	0554	01118	1326
0500	1270 B	3564 C		2697	15089	0684	01713	1235
0600	1087	3538 C		2711	15038	0802	02377	1104
0700	0848 B	35120		2731	14964	0903	03050	0904
0800	0683 I	3505 I		2750	14916	0985	03678	0717
1000	0563	35075		2768	14902	1114	04854	0556
1200	0441	34972		2774	14884	1220	06050	0491
1500	0392	34943		2777	14914	1368	08097	0478
2000	0363	34944		2780	14986	1611	12488	0479
2500	0339 B	34946		2783	15062	1856	18185	0483
3000	0296	34939		2786	15129	2095	24977	0456
3500	0264	34924		2788	15203	2326	32729	0446
4000	0240	34911		2789	15280	2553	41560	0441
4500	0226	34898		2789	15363	2782	51638	0449

C-REF-NO 001	YR 1963	DEPTH 4857	WAVES 1 2322	AIR T 16.0	VIS 97
CONS. NO 057	MONTH 5	MXSAMPD 38	WAVES 2 2322	WET B 14.6	STN
LAT 39-562N	DAY 02	NO.DPTH 23	WND-DIR 230	WW-CODE 01	
LUN 41-300W	HR 06.0	W-COLOR	WND-SPD 10	CLD-TPE 6	
MARSD SQ 113		W-TRNSP	BARO 1029.1	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
060	0000	171 B	36389		2657	15155
060	0010	1711	36315	572	2651	15156
060	0048	1643	36258	560	2663	15141
060	0097	1576	36185	569	2673	15128
060	0145	1540	36126	559	2677	15124
060	0194	1524	36075	543	2676	15126
060	0242	1493	36059	553	2682	15124
060	0290	1472	36017	546	2683	15125
060	0388	1404	35883	523	2688	15118
060	0486	1324	35778	576	2696	15106
060	0580	1088	35375	379	2711	15036
060	0679	0869	35154	383	2731	14969
074	0742	0771	35098	406	2741	14942
074	0928	0597	35068	391	2763	14904
074	1117	0568	35145	523	2773	14925
074	1318	0470	35041	565	2776	14917
074	1504	0414	34991	605	2779	14924
074	1695	0388	34966	619	2779	14945
074	1874	0371	34956	626	2780	14968
074	2352	0346	34964	624	2783	15039
074	2846	0308 B	34946	620	2786	15108
074	3330	0269	34926	627	2788	15175
074	3813	0240	34908	631	2789	15247

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1710 B	36389		2657	15155	0000	00000	1472
0010	1711	36315		2651	15156	0015	00001	1531
0020	1698 B	3628 D		2652	15154	0031	00003	1528
0030	1681 C	3626 E		2654	15150	0046	00007	1509
0050	1640	36255		2664	15141	0075	00019	1428
0075	1603	36217		2669	15133	0111	00042	1381
0100	1573	36181		2673	15128	0145	00073	1350
0125	1552	36149		2676	15125	0179	00112	1336
0150	1538	36120		2677	15124	0213	00159	1336
0175	1530	36092		2676	15125	0246	00216	1345
0200	1520	36073		2677	15126	0280	00281	1347
0225	1504	36064		2680	15125	0314	00354	1326
0250	1489	36053		2682	15125	0347	00436	1310

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1466	36004		2684	15125	0413	00622	1312
0400	1399 B	3588 B		2688	15118	0545	01094	1293
0500	1293 B	3572 D		2698	15097	0672	01679	1219
0600	1039	35315		2715	15021	0787	02327	1063
0700	0833	35130		2735	14959	0885	02976	0872
0800	0700	3507 B		2750	14923	0966	03596	0727
1000	0581 D	3510 D		2768	14910	1096	04787	0563
1200	0529 B	3511 C		2775	14922	1205	06012	0509
1500	0415	34992		2779	14924	1354	08080	0472
2000	0364	34957		2781	14987	1594	12406	0471
2500	0335	34960		2784	15060	1833	17952	0467
3000	0295 B	34940		2786	15129	2068	24630	0455
3500	0260	34920		2788	15201	2297	32332	0441

C-REF-NO 001	YR 1963	DEPTH 4720	WAVES 1 2622	AIR T 16.7	VIS 98
CONS. NO 058	MONTH 5	MXSAMPD 35	WAVES 2 2322	WET B 14.6	STN
LAT 40-155N	DAY 02	NO.DPTH 22	WND-DIR 270	WW-CODE 03	
LON 42-370W	HR 14.6	W-COLOR	WND-SPD 13	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1029.2	CLD-AMT 4	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
146	0000	1591 B	36180		2670	15116
146	0009	1592	36135	590	2666	15118
146	0047	1594	36161	572	2667	15125
146	0095	1538	36124	572	2677	15115
146	0142	1514	36093	560	2680	15115
146	0190	1510	36092	554	2681	15122
146	0238	1499	36073	554	2682	15126
146	0286	1487	36046	545	2682	15130
146	0384	1457	36000	556	2685	15136
146	0479	1362	35804	548	2691	15118
146	0578	1167	35490	389	2705	15064
146	0674	0886	35144	370	2727	14975
146	0772	0785	35161	424	2744	14953
160	0995	0663	35260	491	2770	14944
160	1198	0523	35104	552	2775	14919
160	1403	0429	34994	608	2777	14913
160	1594	0392	34958	624	2778	14930
160	1796	0375	34954	629	2780	14957
160	1983	0368	34962	628	2781	14985
160	2474	0338	34962	622	2784	15057
160	2967	0297	34943	632	2786	15124
160	3455	0260 B	34925	622	2788	15193

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1591 B	36180		2669	15117	0000	00000	1358
0010	1592	36134		2665	15118	0014	00001	1398
0020	1595	3613 E		2664	15121	0028	00003	1412
*0030	1596 B	3613 F		2664	15123	0042	00007	1414
0050	1591	36160		2668	15125	0071	00018	1389
0075	1563 B	36144		2673	15120	0105	00040	1349
0100	1534	36120		2678	15115	0138	00070	1311
0125	1520	36102		2679	15114	0171	00108	1301
0150	1513	36092		2680	15116	0204	00155	1301
0175	1511	36092		2681	15119	0237	00209	1304
0200	1508	36089		2681	15123	0270	00273	1309
0225	1502	36079		2682	15125	0303	00345	1311
0250	1496	36066		2682	15127	0336	00426	1315
0300	1485	3604 B		2683	15131	0403	00614	1323

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0400	1446	35976		2686	15135	0536	01093	1321
0500	1329	35744		2693	15110	0667	01698	1275
0600	1099 D	3540 D		2711	15043	0787	02375	1111
0700	0849 C	3513 D		2732	14965	0889	03047	0897
0800	0766 B	3518 B		2748	14951	0972	03686	0749
1000	0659	35257		2770	14943	1105	04896	0562
1200	0522	35103		2775	14919	1213	06114	0505
1500	0406	34970		2778	14920	1362	08183	0476
2000	0367	34962		2781	14988	1603	12530	0472
2500	0336	34961		2784	15060	1842	18082	0467
3000	0297	34945		2787	15130	2077	24750	0453
3500	0256 B	34923		2788	15199	2304	32375	0434

C-REF-NO 001	YR 1963	DEPTH 4815	WAVES 1 2922	AIR T 15.2	VIS 98
CONS. NO 059	MONTH 5	MXSAMPD 48	WAVES 2 2923	WET B 13.5	STN
LAT 40-410N	DAY 02	NO.DPTH 27	WND-DIR 300	WW-CODE 02	
LON 42-157W	HR 20.5	W-COLOR	WND-SPD 12	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1030.2	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
205	0000	159 B	36129		2666	15116
205	0009	1572	36097	604	2667	15111
205	0046	1562	36095	593	2669	15114
205	0094	1513	36098	555	2681	15107
205	0143	1509	36097	554	2681	15114
205	0191	1508	36093	550	2681	15121
205	0240	1492	36064	542	2683	15124
205	0290	1473	36020	537	2683	15125
205	0388	1438	35962	534	2687	15130
205	0488	1380	35844	501	2690	15126
205	0588	1195	35533	410	2703	15076
205	0691	0936	35215	365	2725	14997
205	0789	0803	35183	410	2743	14963
220	0991	0610	35104	388	2764	14920
220	1193	0527	35101	543	2774	14920
220	1396	0450	35024	583	2777	14921
220	1584	0415	34994	604	2779	14938
220	1784	0384	34966	616	2780	14958
220	1985	0364	34950	623	2780	14984
220	2477	0335	34955	618	2784	15056
220	2984	0302	34944	621	2786	15129
220	3483	0264	34927	623	2788	15199
220	3982	0234	34906	623	2789	15274
#242	4203	0229	34898	613	2789	15310
#242	4397	0228	34898	616	2789	15344
#242	4591	0228	34898	616	2789	15379
#242	4781	0228	34894	623	2789	15413

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1590 B	36129		2666	15116	0000	00000	1393
0010	1571	36096		2667	15111	0014	00001	1380
0020	1565 C	3609 C		2668	15111	0028	00003	1377
*0030	1561 C	3608 C		2669	15111	0042	00006	1375
0050	1558	36095		2670	15114	0069	00018	1364
0075	1532 B	36097		2676	15110	0103	00039	1316
0100	1511	36098		2681	15107	0136	00069	1278
0125	1508	36098		2682	15110	0168	00106	1278

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0150	1509	36097		2681	15115	0200	00152	1290
0175	1509	36096		2681	15119	0233	00206	1298
0200	1506	36089		2682	15122	0266	00269	1304
0225	1498	36075		2682	15123	0299	00341	1305
0250	1488	36055		2683	15124	0331	00421	1306
0300	1470	36015		2684	15126	0397	00608	1312
0400	1435	35955		2687	15131	0530	01084	1312
0500	1363	35812		2691	15122	0661	01692	1295
0600	1163 B	3549 B		2706	15067	0786	02391	1164
0700	0921	3521 B		2727	14993	0893	03103	0960
0800	0790	35178		2745	14959	0981	03779	0786
1000	0605	35104		2765	14919	1121	05054	0595
1200	0524	35099		2775	14920	1233	06314	0510
1500	0428	35005		2778	14930	1384	08405	0480
2000	0363	34950		2781	14986	1627	12785	0475
2500	0334	34955		2784	15059	1867	18363	0468
3000	0301	34944		2786	15132	2104	25095	0460
3500	0263	34926		2788	15202	2335	32849	0442
4000	0233	34905		2789	15277	2559	41567	0434
4500	0228	34898		2789	15363	2787	51603	0451

C-REF-NO 001	YR 1963	DEPTH 4835	WAVES 1 2922	AIR T 15.0	VIS 97
CUNS. NO 060	MONTH 5	MXSAMPD 48	WAVES 2 2923	WET B 13.6	STN
LAT 41-068N	DAY 03	NO.DPTH 25	WND-DIR 320	WW-CODE 03	
LON 41-548W	HR 05.0	W-COLOR	WND-SPD 10	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1028.1	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
050	0000	163 B	36254		2666	15130
050	0009	1625	36235	569	2666	15129
050	0047	1626	36233	573	2665	15136
050	0095	1576	36165	539	2672	15128
050	0143	1548	36143	563	2676	15126
050	0192	1519	36106	563	2680	15125
050	0241	1518	36106	559	2680	15133
050	0291	1512	36095	557	2681	15139
050	0390	1474	36023	555	2683	15142
050	0489	1435	35947	553	2686	15145
050	0589	1374	35854	584	2692	15141
050	0689	1212	35559	425	2702	15099
050	0790	0932	35231	388	2727	15012
056	0937	0698	35064	454	2749	14945
056	1134	0572	35100	530	2769	14928
056	1333	0491	35054	580	2775	14928
056	1504	0429	34995	615	2777	14930
056	1701	0392	34967	671	2779	14948
056	1889	0375	34955	656	2780	14972
056	2370	0348	34954	641	2782	15043
069	2957	0304	34949	625	2786	15125
069	3449	0266	34930	625	2788	15194
069	3939	0237	34910	630	2789	15267
069	4450	0229	34901	635	2789	15354
069	4822	0229	34906	640	2789	15421

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1630 B	36254		2666	15130	0000	00000	1390
0010	1625	36234		2666	15129	0014	00001	1397
0020	1625 B	3623 B		2665	15131	0028	00003	1403
*0030	1626 B	3623 C		2665	15133	0042	00007	1408
0050	1623	36229		2666	15135	0071	00018	1410
0075	1599 B	3620 B		2669	15132	0106	00041	1389
0100	1573	36162		2672	15127	0141	00072	1363
0125	1557	36149		2675	15126	0175	00111	1347
0150	1543	36137		2677	15126	0209	00159	1333
0175	1527	36118		2679	15125	0242	00215	1322
0200	1518	36105		2680	15126	0275	00279	1318

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0225	1517	36105		2680	15130	0309	00352	1324
0250	1517	36105		2680	15134	0342	00433	1333
0300	1509	36090		2681	15139	0409	00624	1342
0400	1471	36016		2684	15143	0545	01111	1343
0500	1431	35942		2687	15146	0680	01738	1343
0600	1361	35827		2692	15138	0814	02494	1309
0700	1182 B	35520		2705	15090	0941	03339	1201
0800	0911	35211		2729	15006	1050	04175	0960
1000	0644 C	3506 E		2757	14934	1216	05683	0680
1200	0542	35091		2772	14927	1340	07070	0542
1500	0430	34996		2777	14930	1497	09240	0489
2000	0368	34953		2780	14988	1743	13681	0480
2500	0339	34954		2783	15062	1987	19338	0476
3000	0301	34948		2786	15132	2225	26099	0457
3500	0262	34928		2788	15202	2455	33811	0440
4000	0235	34908		2789	15278	2679	42523	0435
4500	0227	34902		2789	15363	2905	52517	0447

C-REF-NO 001 YR 1963 DEPTH 4736 WAVES 1 3222 AIR T 14.9 VIS 97
 CONS. NO 061 MONTH 5 MXSAMPD 47 WAVES 2 2923 WET B 12.7 STN
 LAT 41-315N DAY 03 NO.DPTH 26 WND-DIR 330 WW-CODE 03
 LON 41-340W HR 12.2 W-COLOR WND-SPD 10 CLD-TPE 6
 MARSD SQ 149 W-TRNSP BARO 1028.7 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
122	0000	1579 B	36177		2674	15110
122	0009	1581	36160	594	2670	15115
122	0047	1582	36162	575	2670	15121
122	0095	1521	36118	561	2680	15110
122	0142	1519	36122	552	2681	15117
122	0190	1520	36119	552	2681	15125
122	0237	1516	36116	549	2681	15132
122	0285	1505	36086	547	2681	15136
122	0380	1476	36033	536	2684	15141
122	0476	1445	35961	527	2685	15146
122	0570	1282	35653	431	2695	15104
122	0667	1065	35356	363	2713	15041
122	0766	0886	35186	380	2731	14990
131	0911	0696	35118	446	2754	14941
131	1101	0518	35005	532	2768	14900
131	1294	0440	34981	597	2775	14900
131	1467	0403	34955	625	2777	14913
131	1659	0379	34936	640	2778	14935
131	1845	0367	34930	648	2779	14961
131	2300	0353	34945	637	2781	15033
131	2776	0325	34950	632	2784	15103
131	3240	0291	34946	638	2787	15169
149	3900	0247	34918	629	2789	15265
149	4302	0233	34911	635	2789	15330
149	4510	0230	34906	630	2789	15365
149	4701	0229	34906	643	2789	15399

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1579 B	36177		2672	15113	0000	00000	1334
0010	1581	36159		2670	15115	0014	00001	1355
0020	1584	3616 B		2669	15118	0027	00003	1367
*0030	1585 B	3616 B		2669	15120	0041	00006	1372
0050	1578	36159		2671	15121	0069	00018	1362
0075	1547 C	3614 B		2676	15115	0102	00039	1319
0100	1519	36117		2681	15110	0135	00069	1281
0125	1516	36118		2681	15113	0167	00106	1282
0150	1519	36122		2681	15118	0200	00152	1293
0175	1520	36120		2681	15123	0233	00206	1303

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1520	36119		2681	15127	0265	00270	1311
0225	1518	36118		2681	15130	0299	00342	1316
0250	1513	36109		2681	15133	0332	00423	1321
0300	1501	36078		2682	15137	0399	00612	1332
0400	1475 B	3603 B		2684	15144	0534	01098	1343
0500	1412 B	3589 C		2687	15139	0669	01724	1338
0600	1215 B	3555 B		2701	15086	0798	02450	1216
0700	1001	35286		2719	15023	0912	03206	1038
0800	0835	3516 B		2737	14977	1008	03947	0872
1000	0601	3506 B		2762	14917	1160	05320	0621
1200	0469 B	3499 B		2772	14896	1275	06616	0517
1500	0398	34951		2777	14916	1426	08716	0479
2000	0362	34933		2779	14986	1672	13145	0486
2500	0342	34948		2782	15063	1919	18893	0486
3000	0309	34949		2786	15135	2163	25807	0469
3500	0272	34935		2788	15206	2398	33702	0450
4000	0243	34916		2789	15281	2626	42578	0441
4500	0230	34906		2789	15364	2855	52675	0450

C-REF-NO 001	YR 1963	DEPTH 4870	WAVES 1 3222	AIR T 14.1	VIS 97
CONS. NO 062	MONTH 5	MXSAMPD 49	WAVES 2 3223	WET B 13.1	STN
LAT 42-172N	DAY 03	NO.DPTH 26	WND-DIR 040	WW-CODE 02	
LON 41-268W	HR 21.8	W-COLOR	WND-SPD 04	CLD-TPE 6	
MARSD SQ 149		W-TRNSP	BARO 1029.1	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
218	0000	150 B	36028		2678	15087
218	0010	1492	36026	573	2680	15086
218	0049	1455	35978	573	2684	15080
218	0099	1451	35970	564	2684	15086
218	0148	1394	35852	531	2688	15075
218	0198	1362	35804	523	2691	15072
218	0248	1337	35767	483	2693	15071
218	0297	1338	35810	549	2696	15080
218	0395	1272	35676	491	2699	15073
218	0496	1003	35271	370	2718	14990
218	0594	0805	35071	388	2734	14930
218	0694	0679	35010	441	2748	14897
218	0795	0600	35042	497	2761	14882
228	0999	0498	35031	559	2772	14875
228	1201	0473	35053	580	2777	14899
228	1402	0431	35017	602	2779	14914
228	1590	0400	34983	621	2779	14933
228	1796	0373	34959	631	2780	14956
228	1991	0358	34944	639	2781	14982
228	2482	0332	34949	633	2784	15055
228	2982	0299	34945	629	2786	15127
228	3476	0260	34926	629	2788	15196
*250	4174	0231	34904	628	2789	15306
*250	4464	0228	34898	629	2789	15356
*250	4679	0228	34899	627	2789	15395
*250	4858	0229	34905	632	2789	15427

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1500 B	36028		2678	15087	0000	00000	1274
0010	1492	36026		2680	15086	0013	00001	1262
0020	1482	3602 B		2681	15084	0025	00003	1251
0030	1472 B	3600 B		2682	15082	0038	00006	1242
0050	1455	35978		2684	15080	0063	00016	1232
0075	1453 B	3598 C		2684	15083	0094	00036	1237
0100	1450	35968		2684	15086	0125	00064	1244
0125	1422 B	3591 C		2686	15081	0157	00100	1237
0150	1392	35849		2688	15074	0188	00144	1228

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0175	1375	35821		2689	15072	0218	00196	1220
0200	1361	35802		2691	15072	0249	00255	1213
0225	1346	35778		2692	15071	0280	00321	1209
0250	1337	35769		2693	15072	0310	00395	1204
0300	1338	35810		2696	15081	0370	00566	1190
0400	1260	3566 B		2700	15069	0490	00995	1176
0500	0994	35260		2718	14987	0600	01499	1002
0600	0796	35064		2735	14927	0693	02022	0844
0700	0673	35011		2748	14896	0772	02546	0717
0800	0597	35042		2761	14882	0839	03058	0601
1000	0498	35031		2772	14875	0950	04080	0501
1200	0473	35053		2777	14899	1049	05197	0475
1500	0414	34999		2779	14924	1192	07186	0466
2000	0357	34944		2781	14984	1430	11493	0472
2500	0331	34949		2784	15058	1670	17055	0468
3000	0298	34944		2786	15130	1905	23745	0455
3500	0258	34925		2788	15200	2133	31400	0436
4000	0235	34909		2789	15278	2356	40072	0435
4500	0228	34898		2789	15363	2584	50120	0452

C-REF-NO 001 YR 1963 DEPTH 4838 WAVES 1 2821 AIR T 14.1 VIS 96
 CONS. NO 063 MONTH 5 MXSAMPD 48 WAVES 2 1822 WET B 13.1 STN
 LAT 42-220N DAY 04 ND.DPTH 26 WND-DIR 280 WW-CODE 02
 LUN 42-218W HR 07.8 W-COLOR WND-SPD 02 CLD-TPE 7
 MARSD SQ 149 W-TRNSP BARO 1027.1 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
078	0000	153 B	36116		2678	15097
078	0009	1521	36106	565	2679	15096
078	0047	1522	36115	563	2680	15102
078	0094	1522	36109	557	2679	15110
078	0140	1513	36097	535	2681	15114
078	0188	1513	36097	537	2681	15122
078	0236	1508	36089	543	2681	15129
078	0284	1496	36062	530	2682	15132
078	0382	1433	35906	524	2683	15126
078	0480	1372	35821	461	2690	15122
078	0578	1198	35537	400	2703	15076
078	0677	0975	35259	349	2722	15009
078	0773	0775	35051	396	2737	14948
092	0971	0531	34975	521	2764	14883
092	1164	0458	34988	581	2774	14885
092	1366	0422	34978	604	2777	14904
092	1545	0400	34965	623	2778	14925
092	1743	0388	34961	623	2779	14953
092	1937	0366	34938	632	2779	14976
092	2418	0346	34951	624	2782	15050
092	2910	0312	34946	634	2785	15120
092	3399	0279	34933	634	2787	15191
092	3900	0244	34927	635	2790	15264
116	4421	0228	34922	636	2791	15349
116	4630	0227	34920	637	2791	15386
116	4825	0225	34921	648	2791	15420

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1530 B	36116		2678	15097	0000	00000	1273
0010	1521	36106		2680	15096	0013	00001	1264
0020	1518 B	36111 B		2680	15096	0026	00003	1262
*0030	1518 B	36111 B		2680	15098	0038	00006	1263
0050	1522	36115		2680	15103	0064	00016	1273
0075	1523	36113		2680	15107	0096	00037	1283
0100	1521	36107		2680	15110	0128	00066	1292
0125	1516	36101		2680	15113	0161	00104	1294
0150	1513	36097		2681	15116	0194	00150	1298
0175	1513	36097		2681	15120	0226	00205	1305

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1512	36096		2681	15124	0259	00268	1313
0225	1510	36092		2681	15127	0293	00341	1318
0250	1506	36084		2681	15130	0326	00422	1322
0300	1487	3604 B		2682	15132	0393	00611	1332
0400	1426 B	3590 B		2684	15127	0527	01095	1336
0500	1343	3577 B		2692	15115	0660	01706	1284
0600	1150	35472		2707	15062	0783	02397	1150
0700	0924	35201		2726	14994	0890	03108	0969
0800	0730	3502 C		2742	14934	0979	03797	0807
1000	0514 B	34975		2766	14881	1118	05056	0563
1200	0450	34987		2774	14888	1225	06259	0492
1500	0405	34968		2778	14919	1372	08303	0476
2000	0362	34937		2780	14986	1616	12708	0484
2500	0341	34951		2783	15062	1862	18415	0481
3000	0306	34944		2786	15134	2104	25297	0468
3500	0271	34931		2788	15206	2339	33206	0452
4000	0239	34926		2790	15280	2565	41969	0429
4500	0228	34921		2791	15364	2787	51756	0435

C-REF-NO 001	YR 1963	DEPTH 4700	WAVES 1 1822	AIR T 14.9	VIS 97
CONS. NO 064	MONTH 5	MXSAMPD 46	WAVES 2 1822	WET B 13.5	STN
LAT 42-498N	DAY 04	NO.DPTH 27	WND-DIR 180	WW-CODE 03	
LON 41-250W	HR 18.9	W-COLOR	WND-SPD 07	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1024.2	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
189	0000	154 B	36125		2677	15100
189	0010	1533	36096	595	2676	15099
189	0049	1508	36093	572	2681	15098
189	0098	1437	35975	562	2688	15082
189	0148	1433	35959	561	2687	15089
189	0197	1431	35950	557	2687	15096
189	0246	1365	35801	534	2690	15081
189	0296	1341	35736	535	2690	15080
189	0394	1293	35735	540	2699	15080
189	0489	0979	35254	365	2721	14980
189	0576	0789	35075	385	2737	14921
189	0671	0655	35012	456	2751	14883
189	0758		35034	501		
205	0912	0508	35031	553	2771	14864
205	1105	0448	34998	541	2775	14871
205	1309	0417	34988	628	2778	14893
205	1486	0382	34944	639	2778	14907
205	1673	0372	34948	640	2780	14934
205	1849	0362	34936	647	2780	14960
205	2344	0346	34952	635	2782	15038
205	2845	0311	34948	637	2785	15109
205	3329	0276	34938	637	2788	15178
205	3824	0245	34922	639	2789	15251
237	4052	0234	34917	639	2790	15286
237	4239	0228	34914	628	2790	15317
237	4444	0228	34911	624	2790	15353
237	4642	0227	34911	630	2790	15388

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1540 B	36125		2677	15100	0000	00000	1288
0010	1533	36096		2676	15099	0013	00001	1297
0020	1528	3609 C		2677	15099	0026	00003	1293
0030	1522	3609 D		2678	15099	0039	00006	1285
0050	1506	36091		2682	15098	0065	00017	1257
0075	1469 B	3603 C		2685	15089	0096	00037	1229
0100	1436	35973		2688	15082	0127	00064	1212
0125	1430 B	3596 B		2688	15084	0157	00100	1218
0150	1434	35960		2687	15089	0188	00143	1231

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0175	1436 B	3596 B		2687	15094	0219	00195	1241
0200	1427	35942		2687	15095	0251	00256	1246
0225	1395 B	3587 C		2689	15088	0282	00324	1240
0250	1362	35793		2690	15080	0313	00400	1236
0300	1342	3574 B		2690	15081	0376	00577	1249
0400	1275 B	3571 C		2701	15075	0498	01014	1168
0500	0951	35221		2723	14971	0605	01505	0958
0600	0749	35048		2741	14909	0693	01998	0785
0700	0628 B	35016		2755	14878	0766	02480	0649
0800	0554 D	35037		2766	14865	0826	02944	0547
1000	0476	35017		2774	14866	0931	03902	0483
1200	0432	34994		2777	14881	1026	04987	0464
1500	0381	34944		2778	14909	1167	06946	0462
2000	0357	3494 B		2780	14984	1406	11258	0476
2500	0336	34952		2783	15060	1647	16876	0474
3000	0300	34945		2786	15131	1885	23622	0457
3500	0264	34932		2788	15203	2115	31337	0441
4000	0236	34918		2790	15279	2338	39997	0429
4500	0227	34911		2790	15363	2561	49850	0440

C-REF-NO 001	YR 1963	DEPTH 4670	WAVES 1 2722	AIR T 13.5	VIS 97
CONS. NO 065	MONTH 5	MXSAMPD 40	WAVES 2 2722	WET B 11.1	STV
LAT 43-050N	DAY 05	NO.DPTH 23	WND-DIR 270	WW-CODE 01	
LON 42-000W	HR 05.3	W-COLOR	WND-SPD 12	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1022.1	CLD-AMT 2	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
053	0000	153 B	36133		2680	15097
053	0009	1516	36100	564	2680	15094
053	0048	1505	36079	550	2681	15097
053	0095	1481	36022	540	2682	15096
053	0143	1458	35969	536	2683	15096
053	0191	1452	35963	551	2684	15102
053	0239	1427	35900	519	2684	15101
053	0288	1413	35899	534	2687	15104
053	0386	1371	35860	542	2693	15106
053	0486	1185	35515	408	2704	15056
053	0587	0953	35213	362	2722	14986
053	0685	0757	35035	416	2739	14926
053	0784	0606	34982	485	2755	14882
062	0999	0489	34995	563	2771	14871
062	1201	0430	34970	607	2775	14880
062	1402	0395	34946	638	2777	14898
062	1589	0375	34931	637	2778	14921
062	1794	0366	34926	646	2778	14952
062	1988	0359	34932	644	2780	14982
062	2484	0344	34955	618	2783	15061
062	2988	0307	34944	630	2786	15132
062	3487	0268	34928	644	2788	15202
062	3986	0239	34912	640	2789	15277

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1530 B	36133		2680	15097	0000	00000	1261
0010	1515	36098		2680	15094	0013	00001	1258
0020	1509 B	3609 C		2681	15093	0025	00003	1258
*0030	1506 B	3608 C		2681	15094	0038	00006	1259
0050	1504	36077		2681	15097	0063	00016	1263
0075	1492	36048		2681	15097	0095	00037	1265
0100	1478	36015		2682	15096	0127	00065	1268
0125	1466	35986		2682	15096	0159	00102	1271
0150	1457	35968		2683	15097	0191	00148	1274
0175	1454	3597 B		2683	15100	0223	00201	1277
0200	1448	35951		2684	15102	0256	00263	1282
0225	1435	3592 B		2684	15101	0288	00334	1286
0250	1424	35898		2685	15102	0320	00413	1286

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1412	3590 B		2688	15106	0385	00595	1272
0400	1351	3582 C		2694	15101	0511	01050	1236
0500	1153	35468		2706	15047	0631	01601	1135
0600	0925	35183		2724	14977	0737	02196	0964
0700	0731	35022		2741	14918	0826	02785	0793
0800	0591 B	34981		2757	14879	0898	03340	0639
1000	0489	34995		2771	14871	1015	04409	0515
1200	0430	34970		2775	14880	1116	05547	0479
1500	0383	34937		2778	14910	1260	07553	0470
2000	0359	34933		2780	14984	1502	11927	0482
2500	0343	34955		2783	15063	1748	17630	0482
3000	0306	34944		2786	15134	1990	24517	0469
3500	0269	34928		2788	15205	2225	32417	0451
4000	0238	34911		2789	15279	2453	41256	0437

C-REF-NO 001 YR 1963 DEPTH 4828 WAVES 1 2723 AIR T 14.4 VIS 97
 CONS. NO 066 MONTH 5 MXSAMPD 48 WAVES 2 2524 WET B 12.6 STN
 LAT 43-220N DAY 05 NO.DPTH 26 WND-DIR 270 WW-CODE 03
 LON 42-333W HR 12.1 W-COLOR WND-SPD 15 CLD-TPE 0
 MARSD SQ 149 W-TRNSP BARO 1023.4 CLD-AMT 5 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
121	0000	1358 B	35703		2685	15034
121	0010	1380	35747	531	2682	15046
121	0048	1381	35753	531	2683	15053
121	0096	1382	35757	527	2683	15061
121	0144	1377	35755	569	2684	15067
121	0193	1283	35535	557	2686	15041
121	0241	1280	35549	549	2688	15048
121	0289	1273	35562	512	2690	15054
121	0387	1332	35796	558	2696	15093
121	0485	1086	35377	361	2711	15019
121	0579	0864	35127	355	2729	14950
121	0675	0712	35036	414	2745	14907
121	0773	0616	35038	479	2758	14885
131	0990	0500	35016	562	2771	14874
131	1188	0433	34973	610	2775	14879
131	1382	0395	34950	636	2777	14895
131	1578	0370	34911	654	2777	14917
131	1784	0362	34921	654	2778	14949
131	1981	0360	34938	646	2780	14981
131	2479	0339	34958	637	2784	15058
131	2977	0305	34946	646	2786	15129
131	3472	0267	34931	643	2788	15199
153	4115	0232	34912	643	2790	15296
153	4410	0227	34911	645	2790	15346
153	4614	0224	34910	654	2790	15381
153	4813	0223	34911	665	2790	15417

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1358 B	35703		2684	15037	0000	00000	1222
0010	1380	35747		2682	15046	0012	00001	1237
0020	1387 B	3576 C		2682	15050	0025	00003	1242
0030	1389 C	3577 D		2682	15053	0037	00006	1246
0050	1381	35753		2683	15053	0063	00016	1246
0075	1382	35756		2683	15058	0094	00036	1253
0100	1383	35761		2683	15062	0126	00065	1259
0125	1384 B	3577 C		2683	15067	0157	00101	1263
0150	1365 B	3573 C		2684	15064	0189	00146	1262
0175	1317 D	3562 F		2685	15051	0221	00199	1257

DEPTH	T E M P	S A L	OXYGEN	SGMT	SDUND	DELTA-D	POT.EN	SVA
0200	1280	3553 B		2686	15041	0253	00260	1253
0225	1276 B	3553 C		2687	15044	0284	00329	1251
0250	1278	35549		2688	15049	0316	00406	1248
0300	1285 C	3560 E		2690	15060	0378	00583	1240
0400	1308 C	3576 E		2698	15086	0501	01024	1198
0500	1048	35327		2714	15007	0615	01545	1047
0600	0825	35096		2733	14939	0711	02086	0866
0700	0683	35032		2749	14900	0791	02617	0716
0800	0597	35037		2761	14882	0858	03130	0605
1000	0496	35014		2771	14874	0971	04166	0511
1200	0430	34972		2775	14880	1071	05298	0478
1500	0378	34925		2777	14908	1216	07308	0473
2000	0360	34939		2780	14985	1457	11673	0478
2500	0338	34958		2784	15061	1699	17292	0472
3000	0303	34945		2786	15133	1938	24070	0463
3500	0265	34930		2788	15203	2170	31853	0443
4000	0236	34915		2789	15279	2394	40566	0432
4500	0226	34910		2790	15363	2618	50433	0439

C-REF-NO 001	YR 1963	DEPTH 4680	WAVES 1 2523	AIR T 15.0	VIS 98
CUNS. NO 067	MONTH 5	MXSAMPD 39	WAVES 2 2655	WET B 13.4	STN
LAT 43-33ON	DAY 05	NO.DPTH 23	WND-DIR 260	WW-CODE 03	
LON 43-100W	HR 21.4	W-COLOR	WND-SPD 15	CLD-TPE 2	
MARSD SQ 149		W-TRNSP	BARO 1020.2	CLD-AMT 7	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
214	0000	146 B	35950		2681	15073
214	0010	1446	35930	583	2682	15070
214	0048	1452	35951	575	2683	15078
214	0095	1432	35907	557	2684	15079
214	0143	1427	35905	546	2685	15085
214	0190	1432	35924	546	2685	15095
214	0237	1414	35870	548	2685	15096
214	0285	1362	35741	551	2686	15085
214	0379	1239	35456	524	2689	15056
214	0480	1112	35388	356	2707	15028
214	0573	0900	35141	347	2725	14963
214	0676	0747	35070	410	2743	14921
214	0780	0609	35040	488	2759	14884
226	0958	0494	35004	553	2771	14866
226	1147	0433	34970	595	2775	14872
226	1345	0407	34958	618	2777	14894
226	1532	0403	34974	618	2778	14924
226	1733	0373	34944	631	2779	14945
226	1926	0363	34945	634	2780	14973
226	2407	0341	34947	629	2783	15046
226	2900	0303	34945	629	2786	15115
226	3401	0263	34925	638	2788	15184
226	3891	0236	34911	637	2789	15259

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1460 B	35950		2681	15073	0000	00000	1248
0010	1446	35930		2682	15070	0013	00001	1236
0020	1444 B	3593 B		2683	15071	0025	00003	1235
0030	1445 C	3594 C		2683	15073	0037	00006	1236
0050	1451	35949		2683	15078	0062	00016	1245
0075	1441	3593 B		2683	15079	0094	00036	1248
0100	1431	35905		2684	15079	0125	00064	1250
0125	1427	35902		2684	15082	0157	00101	1253
0150	1428	35909		2685	15087	0188	00146	1257
0175	1431	35921		2685	15092	0220	00199	1262
0200	1430	35919		2685	15096	0252	00260	1270
0225	1421	35891		2685	15097	0284	00330	1278
0250	1402	35839		2685	15094	0317	00409	1284

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	1343	3569 B		2686	15081	0381	00592	1288
0400	1217 B	3544 D		2692	15052	0509	01052	1250
0500	1067 B	3534 C		2711	15015	0627	01590	1076
0600	0855	3511 B		2730	14950	0727	02151	0903
0700	0712	35061		2747	14911	0810	02701	0737
0800	0591	35035		2761	14880	0877	03218	0598
1000	0476	34995		2772	14866	0988	04236	0499
1200	0423	34964		2775	14877	1087	05350	0474
1500	0404	34972		2778	14919	1231	07353	0472
2000	0360	34945		2781	14985	1471	11695	0474
2500	0334	34947		2783	15060	1713	17311	0475
3000	0295	34942		2786	15129	1949	24023	0452
3500	0259	34926		2788	15201	2177	31661	0436

C-REF-NU 001	YR 1963	DEPTH 4640	WAVES 1 2523	AIR T 15.0	VIS 97
CONS. NO 068	MONTH 5	MXSAMPD 46	WAVES 2 2634	WET B 13.4	STN
LAT 44-073N	DAY 06	NO.DPTH 26	WND-DIR 250	WW-CODE 01	
LON 43-487W	HR 06.2	W-COLOR	WND-SPD 15	CLD-TPE 8	
MARSD SQ 149		W-TRNSP	BARO 1020.2	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
062	0000	097 B	34504		2664	14887
062	0009	0981	34559	692	2666	14893
062	0046	1006	34754	639	2677	14910
062	0092	1231	35413	592	2687	15006
062	0139	1283	35551	566	2687	15033
062	0186	1292	35576	557	2687	15044
062	0234	1180	35342	532	2691	15010
062	0282	1198	35432	446	2695	15026
062	0378	1030	35226	368	2710	14980
062	0476	0851	35081	368	2728	14928
062	0577	0677	34995	448	2747	14876
062	0675	0555	34963	521	2760	14843
062	0775	0513	35000	573	2768	14843
074	0975	0473	35023	586	2775	14860
074	1167	0402	34944	636	2776	14862
074	1369	0382	34932	647	2777	14887
074	1551	0382	34947	638	2778	14918
074	1751	0370	34945	639	2779	14947
074	1943	0360	34945	641	2780	14975
074	2438	0334	34947	642	2783	15048
074	2915	0306	34949	643	2786	15119
074	3414	0272	34939	646	2788	15191
100	3926	0240	34916	636	2789	15267
100	4220	0230	34911	640	2790	15314
100	4428	0228	34901	648	2789	15350
100	4620	0224	34918	655	2791	15383

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0970 B	34504		2664	14887	0000	00000	1413
0010	0981	34563		2666	14893	0014	00001	1389
0020	0983 C	3460 D		2669	14896	0028	00003	1364
*0030	0989 D	3465 E		2672	14900	0042	00006	1338
0050	1025 C	3481 D		2678	14919	0068	00017	1284
0075	1145 H	3517 I		2685	14970	0100	00037	1232
0100	1248 B	3546 C		2687	15013	0131	00065	1216
0125	1279 C	3554 E		2687	15029	0161	00101	1220
0150	1292	3557 B		2687	15038	0192	00144	1231
0175	1297	3559 B		2687	15044	0223	00196	1238

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1259 D	3551 G		2688	15034	0254	00256	1231
0225	1201 C	3538 E		2690	15017	0285	00323	1216
0250	1183 D	3536 F		2692	15014	0316	00398	1205
0300	1177 C	3541 E		2697	15021	0376	00567	1172
0400	0990	35188		2714	14968	0487	00962	1026
0500	0807	35055		2733	14915	0581	01396	0850
0600	0643	34982		2750	14866	0659	01828	0680
0700	0540	34970		2762	14842	0722	02246	0565
0800	0507	35008		2769	14845	0776	02663	0507
1000	0463	35014		2775	14861	0875	03574	0469
1200	0396	34939		2776	14865	0969	04638	0459
1500	0382	34942		2778	14910	1109	06593	0464
2000	0357	34945		2781	14984	1347	10886	0471
2500	0331	34948		2784	15058	1586	16445	0469
3000	0300	34948		2787	15131	1822	23151	0456
3500	0266	34935		2789	15204	2051	30864	0441
4000	0237	34915		2789	15279	2275	39561	0433
4500	0226	34910		2790	15363	2499	49438	0439

C-REF-NO 001	YR 1963	DEPTH 4707	WAVES 1 2523	AIR T 09.3	VIS 97
CONS. NO 069	MONTH 5	MXSAMPD 47	WAVES 2 2534	WET B 09.0	STN
LAT 44-130N	DAY 06	NO.DPTH 26	WND-DIR 250	WW-CODE 02	
LON 44-205W	HR 15.1	W-COLOR	WND-SPD 11	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARO 1017.6	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
151	0000	0912 B	34296		2657	14862
151	0010	0932	34352	715	2658	14872
151	0049	1263	35347	620	2675	15009
151	0097	1345	35625	563	2680	15047
151	0146	1340	35642	548	2683	15054
151	0195	1285	35549	522	2687	15042
151	0243	1223	35445	494	2691	15028
151	0292	1229	35550	411	2698	15039
151	0388	0950	35146	376	2717	14951
151	0486	0789	35049	401	2735	14906
151	0582	0536	34839	514	2753	14819
151	0681	0532	34970	532	2763	14835
151	0778	0464	34939	578	2769	14823
162	0923	0441	34969	610	2774	14838
162	1116	0409	34954	628	2776	14856
162	1313	0392	34951	634	2778	14882
162	1492	0370	34927	655	2778	14903
162	1685	0360	34922	657	2779	14931
162	1867	0358	34937	645	2780	14961
162	2338	0339	34942	638	2782	15033
162	2831	0307	34939	645	2785	15104
162	3323	0272	34928	645	2787	15175
184	4083	0232	34906	640	2789	15291
184	4265	0230	34904	640	2789	15322
184	4461	0227	34903	653	2789	15355
184	4652	0220	34903	659	2790	15386

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0912 B	34296		2657	14862	0000	00000	1476
0010	0932	34352		2658	14872	0015	00001	1468
0020	1009 I	3458 I		2663	14905	0029	00003	1423
0030	1091 I	3483 I		2668	14939	0044	00007	1381
0050	1267	35359		2676	15010	0071	00018	1312
0075	1335 F	3558 I		2679	15040	0103	00039	1290
0100	1347	35631		2680	15049	0136	00068	1281
0125	1351	3566 B		2682	15054	0168	00105	1277
0150	1337	35637		2683	15053	0200	00150	1271
0175	1311	3559 B		2685	15048	0232	00203	1259

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0200	1277	35534		2687	15041	0264	00264	1244
0225	1243 B	3547 C		2689	15032	0295	00332	1230
0250	1225 B	3546 C		2692	15030	0326	00407	1212
0300	1211 C	3553 E		2699	15034	0385	00575	1150
0400	0930 B	3513 C		2719	14945	0492	00955	0970
0500	0747 D	3501 C		2738	14891	0581	01362	0792
0600	0528 D	3486 D		2755	14819	0652	01762	0622
0700	0520 B	3497 B		2765	14833	0711	02152	0540
0800	0458	34942		2770	14824	0763	02554	0493
1000	0427	34966		2775	14845	0860	03443	0458
1200	0401	34953		2777	14867	0952	04490	0454
1500	0369	34926		2778	14904	1091	06427	0460
2000	0354	34941		2781	14983	1327	10697	0470
2500	0329	34942		2783	15057	1567	16264	0471
3000	0295	34936		2786	15129	1804	22988	0457
3500	0260	34922		2788	15201	2033	30695	0440
4000	0235	34908		2789	15278	2257	39398	0434
4500	0225	34903		2789	15362	2483	49343	0444

C-REF-NO 001	YR 1963	DEPTH 4569	WAVES 1 3422	AIR T 06.5	VIS 97
CONS. NO 070	MONTH 5	MXSAMPD 45	WAVES 2 3600	WET B 05.1	STN
LAT 44-000N	DAY 07	NO.DPTH 24	WND-DIR 360	WW-CODE 50	
LON 45-240W	HR 01.5	W-COLOR	WND-SPD 01	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARO 1017.1	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
033	0000	100 B	34307		2643	14895
033	0010	1074	34591	671	2652	14927
033	0049	1499	35974	573	2674	15094
033	0098	1501	35985	567	2675	15102
033	0147	1412	35810	523	2680	15080
033	0196	1312	35582	528	2684	15052
033	0245	1225	35409	532	2688	15029
033	0294	1240	35532	406	2694	15043
033	0392	0983	35229	346	2718	14965
033	0491	0771	35061	408	2739	14900
033	0589	0622	34991	470	2754	14856
033	0687	0520	34953	530	2764	14831
033	0784	0474	34965	570	2770	14828
040	0986	0428	34963	614	2775	14843
040	1186	0408	34963	624	2777	14868
040	1378	0390	34949	639	2778	14892
040	1573	0361	34916	661	2778	14913
040	1772	0356	34922	654	2779	14944
040	1968	0350	34924	652	2780	14975
040	2460	0329	34938	646	2783	15050
015	3155	0279		649		
015	3633	0245		638		
015	4134	0225		648		
015	4532	0212		660		

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	1000 B	34307		2643	14895	0000	00000	1607
0010	1074	34591		2652	14927	0016	00001	1521
0020	1191 I	3498 I		2661	14975	0031	00003	1439
0030	1302 I	3535 I		2668	15019	0045	00007	1381
0050	1502	3599 B		2674	15095	0072	00018	1326
0075	1543 I	3511 I		2675	15113	0106	00039	1328
0100	1498	35980		2675	15102	0139	00069	1336
0125	1458 B	3590 B		2678	15092	0173	00108	1316
0150	1406	35796		2681	15078	0205	00154	1294
0175	1355	3568 B		2682	15064	0238	00209	1283
0200	1303	35561		2684	15049	0270	00271	1274
0225	1254 B	3546 C		2686	15036	0302	00340	1261

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1226 B	3542 C		2688	15030	0334	00417	1245
0300	1229 B	3552 C		2696	15040	0395	00590	1188
0400	0964	35211		2720	14959	0504	00975	0966
0500	0755	35052		2740	14895	0592	01377	0774
0600	0608	34985		2755	14853	0662	01775	0631
0700	0512	34953		2765	14830	0722	02168	0541
0800	0469	34965		2771	14829	0774	02569	0489
1000	0426	34963		2775	14845	0870	03455	0459
1200	0407	34963		2777	14870	0962	04504	0455
1500	0371	34927		2778	14905	1102	06445	0462
2000	0349	34926		2780	14980	1339	10740	0473
2500	0326							
3000	0291							
3500	0254							
4000	0229							
4500	0213							

C-REF-NO 001 YR 1963 DEPTH 4250 WAVES 1 3421 AIR T 05.5 VIS 96
 CONS. NO 071 MONTH 5 MXSAMPD 42 WAVES 2 3602 WET B 04.3 STN
 LAT 44-000N DAY 07 NO.DPTH 24 WND-DIR 360 WW-CODE 51
 LON 45-525W HR 07.1 W-COLOR WND-SPD 05 CLD-TPE 7
 MARSD SQ 149 W-TRNSP BARO 1016.7 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
071	0000	0825 B	33862		2637	14822
071	0009	0822	33808	711	2633	14824
071	0047	1346	35584	571	2677	15039
071	0094	1331	35617	542	2683	15042
071	0141	1258	35485	541	2687	15024
071	0188	1207	35431	387	2693	15013
071	0235	1122	35372	466	2704	14991
071	0282	0961	35179	358	2718	14938
071	0376	0767	35057	350	2739	14879
071	0471	0544	34869	506	2754	14804
071	0565	0470	34898	568	2765	14790
071	0661	0461	34954	584	2770	14802
071	0759	0408	34921	636	2774	14796
110	0999	0410	34964	617	2777	14838
110	1198	0394	34955	628	2778	14864
110	1393	0358	34912	660	2778	14881
110	1583	0359	34925	653	2779	14913
110	1785	0352	34929	650	2780	14945
110	1997	0344	34935	645	2781	14977
110	2493	0317	34934	645	2784	15051
090	3025	0279	34925	642	2787	15126
090	3505	0242	34914	653	2789	15194
090	3999	0219	34903	658	2790	15270
090	4198	0211	34905	665	2791	15302

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0825 B	33862		2636	14824	0000	00000	1670
0010	0833 C	3384 G		2634	14829	0017	00001	1697
0020	0954 I	3424 I		2645	14880	0033	00003	1590
*0030	1088 I	3469 I		2657	14936	0049	00007	1479
0050	1357 C	3562 G		2678	15044	0077	00019	1292
0075	1385 I	3576 I		2682	15058	0109	00039	1257
0100	1323	3560 B		2683	15040	0141	00068	1255
0125	1285 B	3554 C		2686	15031	0172	00104	1238
0150	1249	35472		2688	15022	0203	00148	1222
0175	1222	35442		2691	15016	0234	00198	1199
0200	1191	3542 B		2695	15010	0263	00256	1162
0225	1145	35390		2702	14997	0292	00318	1108

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	1072 B	3531 C		2709	14975	0319	00384	1043
0300	0918 C	3514 D		2722	14925	0369	00523	0920
0400	0705 C	3500 C		2743	14858	0451	00816	0721
0500	0510 B	3487 B		2758	14795	0517	01116	0580
0600	0465 B	3492 B		2767	14794	0571	01422	0495
0700	0441 B	3495 B		2772	14800	0620	01744	0460
0800	0403 C	3492 B		2774	14801	0665	02094	0440
1000	0410	34964		2777	14838	0754	02918	0438
1200	0394	34954		2778	14864	0843	03931	0444
1500	0357	34917		2779	14899	0980	05827	0451
2000	0344	34935		2781	14978	1211	10012	0460
2500	0317	34934		2784	15052	1445	15443	0458
3000	0281	34926		2786	15123	1675	21974	0443
3500	0242	34914		2789	15193	1895	29370	0418
4000	0218	34905		2790	15271	2107	37600	0408

C-REF-NO 001	YR 1963	DEPTH 4164	WAVES 1 0521	AIR T 04.3	VIS 96
CONS. NO 072	MONTH 5	MXSAMPD 42	WAVES 2 3602	WET B 04.1	STN
LAT 44-015N	DAY 07	NO.DPTH 24	WND-DIR 050	WW-CODE 61	
LUN 46-250W	HR 15.2	W-COLOR	WND-SPD 07	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARO 1012.5	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
170	0000	0429 B	33187		2635	14653
170	0010	0456	33310	847	2641	14671
170	0048	0488	33622	791	2662	14695
170	0096	0644	34395	582	2704	14776
170	0144	0527	34591	527	2734	14739
170	0193	0507	34690	531	2744	14741
170	0241	0532	34829	528	2752	14761
170	0290	0482	34833	553	2759	14748
170	0386	0490	34950	562	2767	14769
170	0486	0442	34935	603	2771	14765
170	0581	0463	34999	584	2774	14791
170	0681	0438	34988	603	2776	14797
170	0779	0413	34963	624	2776	14802
170	0977	0369	34915	665	2777	14816
170	1176	0357	34909	664	2778	14844
152	1452	0353	34916	651	2779	14889
152	1651	0351	34928	654	2780	14922
152	1858	0343	34937	646	2782	14953
152	2067	0333	34938	644	2783	14985
152	2553	0300	34932	641	2785	15054
152	3057	0271	34922	647	2787	15128
152	3548	0232	34909	664	2789	15197
152	3955	0212	34901	666	2790	15260
152	4154	0208	34901	674	2791	15293

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0429 B	33187		2634	14656	0000	00000	1694
0010	0456	33310		2641	14671	0017	00001	1630
0020	0466 C	3339 F		2646	14678	0033	00003	1580
0030	0475 D	3347 G		2652	14684	0049	00007	1529
0050	0496 B	3366 B		2664	14699	0078	00019	1416
0075	0585 H	3407 I		2686	14745	0111	00040	1213
0100	0638 C	3442 B		2707	14775	0139	00065	1014
0125	0584 G	3455 F		2724	14759	0163	00092	0854
0150	0521	34605		2736	14738	0183	00120	0744
0175	0506	3466 B		2742	14737	0201	00151	0691
0200	0512 B	3471 B		2746	14744	0218	00183	0659
0225	0525 B	3479 B		2750	14755	0234	00219	0622

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	0524 B	3483 B		2754	14759	0250	00256	0590
0300	0481 B	3485 B		2760	14750	0278	00336	0537
0400	0483 B	3495 B		2768	14768	0329	00518	0473
0500	0444	34944		2772	14769	0375	00731	0443
0600	0460	35001		2774	14793	0420	00981	0431
0700	0433	34984		2776	14798	0463	01269	0422
0800	0407	34957		2777	14803	0505	01598	0421
1000	0367	34913		2777	14819	0591	02391	0424
1200	0356	34909		2778	14848	0677	03373	0431
1500	0353	34919		2779	14897	0811	05231	0444
2000	0336	34938		2782	14975	1037	09323	0447
2500	0304	34933		2785	15047	1263	14573	0440
3000	0274	34923		2787	15120	1487	20922	0435
3500	0236	34910		2789	15191	1703	28181	0411
4000	0211	34902		2791	15268	1910	36243	0399

C-REF-NO 001	YR 1963	DEPTH 4155	WAVES 1 0521	AIR T 05.9	VIS 96
CONS. NO 073	MONTH 5	MXSAMPD 41	WAVES 2 0534	WET B 05.7	STN
LAT 44-030N	DAY 07	NO.DPTH 24	WND-DIR 050	WW-CODE 51	
LUN 46-590W	HR 20.8	W-COLOR	WND-SPD 11	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARO 1011.6	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
208	0000	065 B	33840		2659	14755
208	0010	0672	33817	735	2655	14766
208	0048	0545	33779	731	2668	14720
208	0097	0634 B	34419	569	2707	14773
208	0145	0545	34625	521	2735	14747
208	0193	0516	34710	522	2745	14745
208	0241	0508	34786	525	2752	14750
208	0290	0383	34696	527	2758	14705
208	0386	0464	34925	583	2768	14758
208	0485	0427	34928	625	2772	14759
208	0582	0418	34940	629	2774	14771
208	0679	0396	34926	654	2775	14778
208	0776	0381	34915	657	2776	14788
208	0977	0365	34914	664	2778	14814
208	1173	0355	34908	666	2778	14843
224	1448	0353	34921	647	2779	14888
224	1644	0349	34929	644	2780	14920
224	1852	0337	34931	642	2782	14950
224	2055	0327	34932	642	2783	14980
224	2548	0297	34928	644	2785	15051
224	3046	0263	34918	647	2787	15123
224	3544	0229	34905	648	2789	15195
224	3941	0220	34901	658	2790	15260
224	4145	0218	34901	662	2790	15296

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0650 B	33840		2659	14755	0000	00000	1452
0010	0672	33817		2655	14766	0015	00001	1498
0020	0646 H	3378 D		2655	14757	0030	00003	1494
0030	0615 I	3376 E		2658	14746	0045	00007	1471
0050	0548 B	3380 C		2669	14722	0073	00019	1364
0075	0588 I	3411 I		2689	14746	0105	00039	1183
0100	0630 B	34440		2709	14772	0133	00063	0993
0125	0589 E	3457 D		2725	14761	0156	00090	0847
0150	0540	34637		2736	14746	0176	00118	0743
0175	0522	3469 B		2742	14744	0194	00148	0689
0200	0518 B	34726		2746	14747	0211	00181	0656
0225	0516 C	3477 B		2750	14751	0227	00216	0624

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	0485 C	3477 C		2753	14742	0243	00253	0592
0300	0384 D	3471 D		2760	14707	0271	00333	0530
0400	0462 B	3493 B		2769	14759	0321	00511	0461
0500	0425	34930		2773	14761	0366	00719	0431
0600	0414	34938		2774	14773	0409	00963	0423
0700	0392	34923		2775	14780	0452	01248	0419
0800	0378	34914		2776	14791	0494	01575	0419
1000	0363	34913		2778	14818	0579	02362	0420
1200	0355	34909		2778	14847	0665	03339	0429
1500	0352	34923		2780	14897	0798	05183	0440
2000	0330	34932		2782	14972	1022	09236	0443
2500	0300	34929		2785	15045	1246	14448	0438
3000	0266	34919		2787	15117	1467	20709	0425
3500	0231	34906		2789	15189	1680	27860	0407
4000	0218	34901		2790	15271	1890	36020	0412

C-REF-NO 001 YR 1963 DEPTH 4089 WAVES 1 0521 AIR T 06.3 VIS 97
 CONS. NO 074 MONTH 5 MXSAMPD 39 WAVES 2 0534 WET B 05.5 STN
 LAT 44-000N DAY 08 NO.DPTH 23 WND-DIR 050 WW-CODE 02
 LON 47-290W HR 03.0 W-COLOR WND-SPD 07 CLD-TPE 7
 MARSD SQ 149 W-TRNSP BARU 1012.7 CLD-AMT 8 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
050	0000	0359 B	33179		2641	14623
050	0010	0348	33155	907	2639	14623
050	0050	0467	33659	751	2667	14687
050	0099	0579	34412	582	2714	14751
050	0149	0517	34598	546	2736	14736
050	0198	0482	34703	547	2748	14731
050	0248	0434	34745	589	2757	14720
050	0297	0470	34861	572	2762	14745
050	0396	0481	34928	598	2766	14767
050	0494	0448	34959	609	2772	14769
050	0595	0419	34941	627	2774	14774
050	0694	0404	34940	640	2776	14784
050	0793	0387	34931	650	2777	14793
050	0992	0371	34914	657	2777	14819
050	1191	0366	34924	650	2778	14851
030	1480	0356	34927	649	2779	14895
030	1676	0347	34930	649	2781	14924
030	1878	0341	34930	648	2781	14956
030	2070	0324	34928	660	2783	14981
030	2574	0296	34932	651	2786	15055
030	3070	0262	34919	653	2788	15126
030	3560	0230	34905	653	2789	15198
030	3866	0218	34902	673	2790	15246

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0359 B	33179		2640	14627	0000	00000	1634
0010	0348	33155		2639	14623	0017	00001	1643
0020	0367 E	3323 I		2644	14634	0033	00003	1603
0030	0393 F	3334 I		2650	14648	0049	00007	1546
0050	0467	33659		2667	14687	0078	00019	1383
0075	0537 C	3407 I		2692	14725	0110	00039	1155
0100	0579	34419		2714	14751	0137	00063	0945
0125	0556 D	3455 G		2727	14748	0159	00088	0824
0150	0516	34601		2736	14736	0179	00116	0742
0175	0498	34662		2743	14733	0197	00146	0678
0200	0479	34705		2749	14731	0213	00178	0629
0225	0452 B	3473 B		2753	14723	0228	00211	0585
0250	0435	34750		2757	14721	0243	00246	0551

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	0471	34865		2762	14746	0270	00322	0511
0400	0480	34930		2766	14767	0320	00502	0484
0500	0446	34958		2772	14770	0366	00715	0435
0600	0418	34941		2774	14774	0410	00961	0426
0700	0403	34940		2776	14785	0452	01246	0419
0800	0386	34930		2777	14794	0495	01573	0416
1000	0371	34914		2777	14821	0580	02365	0428
1200	0366	34924		2778	14852	0667	03353	0432
1500	0355	34927		2780	14898	0800	05202	0441
2000	0331	34929		2782	14972	1025	09276	0446
2500	0300	34932		2785	15045	1250	14488	0435
3000	0267	34921		2787	15117	1469	20725	0425
3500	0233	34906		2789	15190	1683	27898	0410

C-REF-NO 001	YR 1963	DEPTH 3798	WAVES 1 3421	AIR T 05.0	VIS 96
CONS. NO 075	MONTH 5	MXSAMPD 38	WAVES 2 3433	WET B 05.0	STN
LAT 44-000N	DAY 08	NO.DPTH 24	WND-DIR 340	WW-CODE 51	
LON 47-540W	HR 08.2	W-COLOR	WND-SPD 07	CLD-TPE 7	
MARSD SQ 149		W-TRNSP	BARD 1012.6	CLD-AMT 8	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
082	0000	039 B	33397		2654	14643
082	0010	0430	33455	861	2655	14662
082	0049	0488	33854	762	2680	14698
082	0098	0499	34410	596	2723	14718
082	0146	0358	34467	615	2743	14668
082	0195	0472	34742	554	2752	14727
082	0244	0541	34924	515	2759	14766
082	0292	0521	34953	527	2763	14766
082	0389	0492	34982	562	2769	14771
082	0486	0465	34987	588	2773	14776
082	0583	0444	34980	597	2774	14783
082	0680	0426	34973	610	2776	14791
082	0778	0402	34955	633	2777	14797
082	0973	0365	34915	664	2778	14814
082	1169	0361	34924	658	2779	14845
100	1490	0359	34939	652	2780	14898
100	1687	0345	34933	652	2781	14925
100	1892	0335	34937	648	2782	14956
100	2086	0324	34939	644	2784	14984
100	2577	0293	34931	647	2786	15055
100	3073	0256	34920	653	2788	15124
100	3375	0234 B	34913	660	2790	15167
100	3576	0217	34905	661	2790	15195
100	3778	0210	34906	664	2791	15228

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0390 B	33397		2654	14643	0000	00000	1499
0010	0430	33455		2655	14662	0015	00001	1494
0020	0454 B	3354 C		2659	14675	0030	00003	1454
0030	0472 C	3364 C		2665	14685	0044	00007	1400
0050	0489	33868		2681	14699	0071	00018	1250
0075	0508 B	3418 H		2704	14715	0100	00036	1042
0100	0492 B	3442 B		2724	14716	0124	00057	0848
0125	0414 H	3446 I		2736	14688	0144	00080	0734
0150	0363 B	3449 B		2744	14671	0161	00104	0665
0175	0412 F	3462 D		2749	14698	0177	00131	0615
0200	0482	34766		2753	14733	0193	00160	0586
0225	0522	34868		2757	14755	0207	00192	0559

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0250	0541	34932		2759	14767	0221	00226	0537
0300	0518	34957		2764	14766	0247	00299	0498
0400	0489	34983		2770	14771	0295	00471	0455
0500	0462	34986		2773	14777	0340	00678	0432
0600	0441	34979		2775	14784	0383	00922	0424
0700	0421	34970		2776	14793	0426	01207	0418
0800	0397	34949		2777	14799	0468	01532	0414
1000	0363	34915		2778	14818	0552	02314	0419
1200	0361	34926		2779	14850	0637	03283	0425
1500	0358	34939		2780	14900	0769	05110	0437
2000	0329	34938		2783	14972	0991	09120	0437
2500	0298	34933		2785	15044	1212	14263	0432
3000	0262	34922		2788	15115	1429	20415	0417
3500	0223	34908		2790	15185	1636	27361	0392

C-REF-NO 001	YR 1963	DEPTH 3295	WAVES 1 3021	AIR T 01.9	VIS 98
CONS. NO 076	MONTH 5	MXSAMPD 33	WAVES 2 3422	WET B 01.7	STN
LAT 44-000N	DAY 08	NO.DPTH 23	WND-DIR 340	WW-CODE 01	
LUN 48-260W	HR 13.9	W-COLOR	WND-SPD 07	CLD-TPE 1	
MARSD SQ 149		W-TRNSP	BARO 1017.5	CLD-AMT 1	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
139	0000	0225 B	33134		2649	14566
139	0010	0480	33786	859	2676	14687
139	0049	0526	33979	838	2686	14715
139	0099	0592	34618	568	2728	14759
139	0148	0504	34673	570	2743	14732
139	0197	0479	34793	567	2756	14731
139	0246	0471	34876	591	2763	14737
139	0295	0466	34924	603	2768	14744
139	0395	0425	34933	659	2773	14743
139	0495	0396	34920	663	2775	14747
139	0594	0379	34908	666	2776	14756
139	0692	0371	34904	701	2776	14769
139	0792	0361	34901	702	2777	14782
139	0990	0349	34894	730	2778	14809
139	1189	0348	34908	704	2779	14842
150	1500	0344	34914	674	2780	14893
150	1699	0341	34924	665	2781	14925
150	1905	0336	34926	673	2781	14958
150	2098	0326	34928	668	2782	14987
150	2598	0295	34931	663	2786	15059
150	2895	0268	34924	672	2788	15099
150	3093	0247	34918	681	2789	15124
150	3290	0216	34907	671	2791	15145

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0225 B	33134		2648	14568	0000	00000	1558
0010	0480	33786		2676	14687	0014	00001	1297
0020	0564 I	3400 I		2683	14726	0027	00003	1230
0030	0598 I	3410 I		2687	14743	0039	00006	1196
0050	0528	33993		2687	14716	0063	00016	1199
0075	0570 D	3432 I		2708	14742	0091	00033	1005
0100	0591	34622		2729	14758	0114	00053	0809
0125	0551 E	3468 I		2738	14747	0133	00076	0722
0150	0502	34678		2744	14731	0151	00100	0669
0175	0485	3474 B		2751	14729	0167	00127	0608
0200	0478	34799		2756	14731	0182	00155	0557
0225	0473	34845		2760	14734	0195	00185	0520
0250	0471	34881		2764	14738	0208	00216	0493

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0300	0464	34926		2768	14744	0232	00284	0458
0400	0423	34933		2773	14743	0276	00441	0417
0500	0395	34919		2775	14748	0318	00634	0406
0600	0378	34908		2776	14757	0359	00866	0406
0700	0370	34904		2776	14770	0400	01141	0408
0800	0360	34901		2777	14783	0441	01460	0408
1000	0349	34895		2778	14811	0525	02235	0417
1200	0348	34908		2779	14844	0610	03198	0422
1500	0344	34914		2780	14893	0740	05019	0437
2000	0331	34927		2782	14973	0965	09089	0449
2500	0302	34931		2785	15046	1191	14338	0439
3000	0258	34921		2788	15113	1408	20492	0411

C-REF-NO 001 YR 1963 DEPTH 1100 WAVES 1 2221 AIR T 04.8 VIS 98
 CONS. NO 077 MONTH 5 MXSAMPD 11 WAVES 2 2722 WET B 03.9 STN
 LAT 44-000N DAY 08 NO.DPTH 15 WND-DIR 210 WW-CODE 01
 LUN 48-540W HR 23.3 W-COLOR WND-SPD 10 CLD-TPE 0
 MARSD SQ 149 W-TRNSP BARO 1023.2 CLD-AMT 3 HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
#240	0000	018 B	32844		2628	14544
#240	0010	0112	32839	1040	2632	14515
#240	0050	-0008	33348	813	2680	14475
#240	0100	0072	33955	739	2724	14528
#240	0150	0186	34250	692	2740	14591
#240	0200	0275	34545	701	2757	14642
#240	0250	0316	34669	674	2763	14670
#240	0300	0334	34729	678	2766	14686
233	0414	0367	34825	684	2770	14720
233	0510	0374	34853	684	2772	14740
233	0607	0380	34873	680	2773	14759
233	0704	0381	34882	679	2773	14775
233	0802	0381	34893	680	2774	14792
233	0996	0367	34892	680	2776	14818
233	1094	0363	34891	680	2776	14833

#MULTIPLE CAST CONTINUED NEXT DAY

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0180 B	32844		2628	14544	0000	00000	1746
0010	0112	32839		2632	14515	0017	00001	1707
0020	0063 B	3293 I		2642	14496	0034	00003	1612
0030	0027 B	3304 I		2654	14483	0050	00007	1506
0050	-0008	33348		2680	14475	0078	00019	1256
0075	0014 E	3367 D		2705	14493	0106	00037	1018
0100	0072	33955		2724	14528	0130	00057	0835
0125	0128	3412 D		2734	14559	0150	00080	0744
0150	0186	34250		2740	14591	0168	00106	0690
0175	0235	3441 C		2749	14619	0184	00133	0610
0200	0275	34545		2757	14642	0199	00161	0543
0225	0300	3462 B		2761	14658	0212	00190	0509
0250	0316	34669		2763	14670	0224	00220	0491
0300	0334	34729		2766	14686	0249	00289	0467
0400	0364	34817		2770	14717	0294	00453	0440
0500	0374	34851		2772	14738	0339	00657	0433
0600	0380	34872		2773	14757	0382	00905	0434
0700	0381	34882		2773	14775	0426	01199	0437
0800	0381	34893		2774	14791	0471	01541	0438
1000	0369	34895		2776	14820	0560	02365	0440

C-REF-NO 001	YR 1963	DEPTH 41	WAVES 1 2021	AIR T 03.6	VIS 98
CONS. NO 078	MONTH 5	MXSAMPD 00	WAVES 2 2522	WET B 03.0	STN
LAT 44-000N	DAY 09	NO.DPTH 5	WND-DIR 210	WW-CODE 01	
LON 49-240W	HR 02.4	W-COLOR	WND-SPD 10	CLD-TPE 0	
MARSD SQ 149		W-TRNSP	BARO 1023.6	CLD-AMT 3	HW

O B S E R V E D

GMT	DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND
024	0000	0292 B	32768		2614	14591
024	0010	0251	32793	823	2619	14576
024	0020	0166	32946	815	2638	14543
024	0030	0151	32970	806	2640	14538
024	0040	0147	32979	797	2641	14538

I N T E R P O L A T E D

DEPTH	T E M P	S A L	OXYGEN	SGMT	SOUND	DELTA-D	POT.EN	SVA
0000	0292 B	32768		2614	14592	0000	00000	1887
0010	0251	32793		2619	14576	0019	00001	1836
0020	0166	32946		2638	14543	0036	00004	1660
0030	0151	32970		2640	14538	0053	00008	1632

REFERENCES

- Knudsen, K. , 1901 Hydrographischen Tabellen. Copenhagen, 63 pp.
- Ekman, V.W. , 1908 Die Zusammendrückbarkeit des Meerwassers nebst
einigen Werten für Wasser und Quecksilber.
Publ. Circ. Cons. Explor. Mer. , No. 43, 47 pp.
- Strickland, J.D.H. MS, 1958. Standard methods of seawater analyses.
Volume II. Fish. Res. Bd. Canada, MS Rept. Oceanogr.
and Limnol. , No. 19, 78 pp.
- Strickland, J.D.H. and Parsons, T.R. , 1960. A manual of seawater analysis.
Bull. Fish. Res. Bd. Canada, No. 125, 185 pp.
- Wilson, W.D. , 1960 Equation for the speed of sound in seawater. Journ.
Acoust. Soc. , America 32 (10); p. 1357.
- Rattray, M. Jr. , 1962 Interpolation errors and oceanographic sampling.
Deep Sea Research. vol. 9, pp 25 to 37.
- Sauer, C.D. , and Fofonoff, N.P. Oceans II, a computer program
for processing oceanographic data (Publication pending).

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